



OWNER'S MANUAL

**18 H.P.
TWIN CYLINDER
HYDROSTATIC
TRACTOR**

**Model Number
143-995A**

**Important:
Read Safety Rules and
Instructions Carefully**

Thank you for purchasing an
American built product.

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LIMITED WARRANTY

For one year from the date of original retail purchase, MTD PRODUCTS INC will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser unless such return is requested by MTD PRODUCTS INC.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, motor, battery, battery charger or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

This warranty will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of MTD.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by MTD.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.



This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at your nearest engine authorized service center.



WARNING

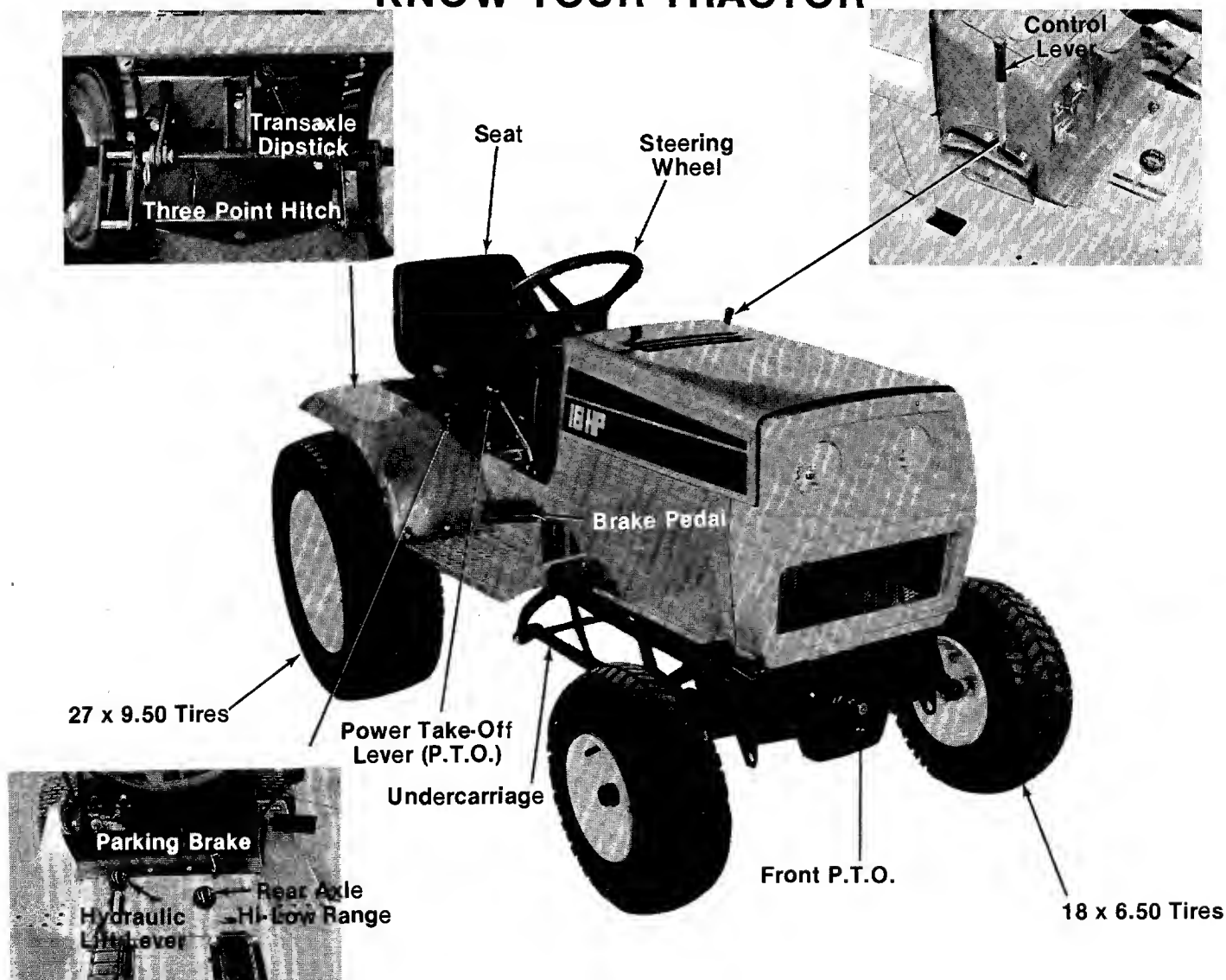
To reduce the potential for any injury, comply with the following safety instructions. Failure to comply with the instructions may result in personal injury.

SAFE OPERATION PRACTICES FOR RIDING VEHICLES

1. Read this owner's manual carefully in its entirety before attempting to assemble or operate this unit. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. This unit is a precision piece of power equipment, not a plaything. Therefore exercise extreme caution at all times.
3. Know the controls and how to stop quickly—READ THIS OWNER'S MANUAL.
4. Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
5. No one should operate this unit while intoxicated or while taking medication that impairs the senses or reactions.
6. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts to avoid entanglement in the moving parts. Never operate a unit in bare feet, sandals, or sneakers.
7. To prevent injury, do not carry passengers or give rides. Keep children, pets and bystanders out of the area while mowing. Only the operator should ride on the unit and only ride in the seat.
8. Check overhead clearance carefully before driving under power lines, guy wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.
9. To maintain control of the unit and reduce the possibility of upset or collision, operate the tractor smoothly. Avoid erratic operation and excessive speed.
10. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of foreign objects, a small object may have been overlooked and could be accidentally thrown by the mower in any direction and cause injury.
11. Clear work area of objects which might be picked up and thrown by the mower in any direction and cause injury.
12. Stop the blade(s) when crossing gravel drives, walks or roads.
13. Disengage all attachment clutches and shift into neutral before attempting to start engine.
14. Disengage power to attachment(s) and stop engine before leaving operating position.
15. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade(s) can cause injury.
16. Disengage power to attachment(s) and stop engine before making any repairs or adjustments. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
17. Before attempting to unclog the mower or discharge chute, stop the engine. The mower blade(s) may continue to rotate for a few seconds after the engine is shut off. Therefore, be sure the blade(s) have stopped completely. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
18. Disengage power to attachment(s) when transporting or not in use.
19. Take all possible precautions when leaving vehicle unattended such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.
20. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face. Use extreme caution if it is necessary to drive the tractor up an incline or back the tractor down an incline because the front of the tractor could lift and rapidly flip over backward which could cause serious injury.
21. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Always keep the tractor in gear when going down steep hills to take advantage of engine braking action.
22. Stay alert for holes in terrain and other hidden hazards.
23. Use care when pulling loads or using heavy equipment.
 - A. Use only approved drawbar hitch points.
 - B. Limit loads to those you can safely control.
 - C. Do not turn sharply. Use care when backing.
 - D. Use counterweight(s) or wheel weights when suggested in owner's manual.
24. Watch out for traffic when crossing or near roadways.
25. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
26. Handle gasoline with care. It is highly flammable.
 - A. Use approved gasoline container.
 - B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline.
 - C. Open doors if engine is run in garage. Exhaust fumes are dangerous. Do not run engine indoors.

27. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in operator's manual.
28. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
29. Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
30. To reduce fire hazard, keep engine free of grass, leaves or excessive grease.
31. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object. The damage should be repaired before restarting and operating the equipment.
32. Do not change the engine governor settings or overspeed the engine.
33. When using the vehicle with mower, proceed as follows:
 - (1) Mow only in daylight or in good artificial light.
- (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
- (3) Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher.
- (4) Check blade mounting bolts for proper tightness at frequent intervals.
34. Check grass catcher bags frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.
35. Look behind to make sure the area is clear before placing the transmission in reverse and continue looking behind while backing up. Disengage blades before shifting into reverse and backing up.
36. This unit should not be driven up a ramp onto a trailer or truck under power, because the unit could tip over, causing serious personal injury. The unit must be pushed manually to load properly.

KNOW YOUR TRACTOR



ASSEMBLY



NOTE

This unit is shipped WITHOUT GASOLINE or OIL. After assembly, see separate engine manual for proper fuel and engine oil recommendations.

The garden tractor is packed and shipped in one container. It is fully assembled except for the three point hitch, battery, seat and steering wheel.

Reference to left or right hand side of machine is from the operator's position in the seat facing forward.

BATTERY INFORMATION



WARNING

- A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*
- B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.
- C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.
- D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.
- E. NEVER connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.
- F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.
- G. As a further precaution, only charge the battery in a well-ventilated area.

***Always shield eyes, protect skin and clothing when working near batteries.**



DANGER

BATTERIES CONTAIN SULFURIC ACID AND MAY CONTAIN EXPLOSIVE GASES (when electrolyte has been added).

KEEP BATTERIES OUT OF THE REACH OF CHILDREN.

ACTIVATING THE BATTERY



NOTE

If your battery is activated (electrolyte in the battery) and installed in the unit, go directly to step 8.

- 1. Place the battery to be filled on a workbench. Never activate a battery in the unit.
- 2. Remove the fill caps from all cells.
- 3. Fill each cell carefully using 1.265 specific gravity electrolyte. Fill each cell to the top of the separators. Do not overfill.
- 4. Let the battery sit for 20 minutes to allow the chemical reaction to take place.
- 5. Charge the battery at a MAXIMUM RATE OF 5 AMPS. until the specific gravity reads 1.265. Use a hydrometer to check the specific gravity.



CAUTION

An excessive rate of charge will damage the battery.

- 6. Check the level of electrolyte. Adjust level to bottom of split ring if necessary with electrolyte.
- 7. Replace fill caps.



CAUTION

After battery has been in service, add only distilled water. DO NOT ADD ACID.

- 8. If your battery has been installed in your unit at the factory:
 - A. Use a hydrometer to check the specific gravity. The specific gravity should be 1.265 at 80° F.
 - B. If it is less, remove the fill caps and use a battery charger to bring the specific gravity up to 1.265. NEVER CHARGE AT MORE THAN 5 AMPS.
 - C. Replace the fill caps.

- D. The positive cable has been attached to the positive terminal of the battery at the factory. You only have to attach the negative cable (grounded) to the negative (Neg., N or -) terminal of the battery with a hex head bolt, lock washer and nut.

INSTALLING THE BATTERY



NOTE

The positive battery terminal is marked Pos. (+). The negative battery terminal is marked Neg. (-).

1. Insert one of the hold down rods in the battery box. See figure 1.
2. Place the battery in the battery case with the negative (-) terminal to the front.
3. Place the hold down over the battery and rear hold down rod. Start the wing nut.
4. Attach the front hold down rod through the hold down. Secure with the other wing nut. Tighten both wing nuts finger tight.
5. Attach the positive battery cable (which has two red wires) to the positive battery terminal. See figure 1.
6. Attach the negative battery cable (grounded, two green wires) to the negative battery terminal. See figure 1.

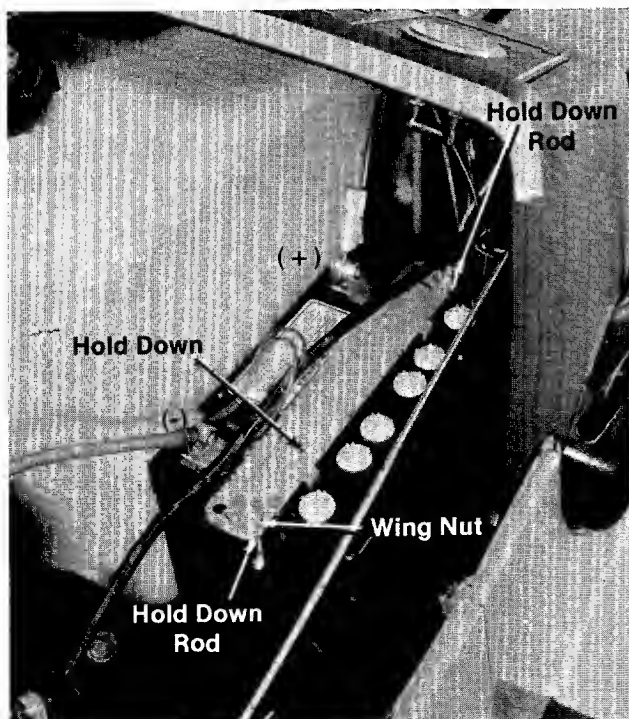


FIGURE 1.

STEERING WHEEL ASSEMBLY

1. Place the wave washer over the steering shaft. See figure 2.

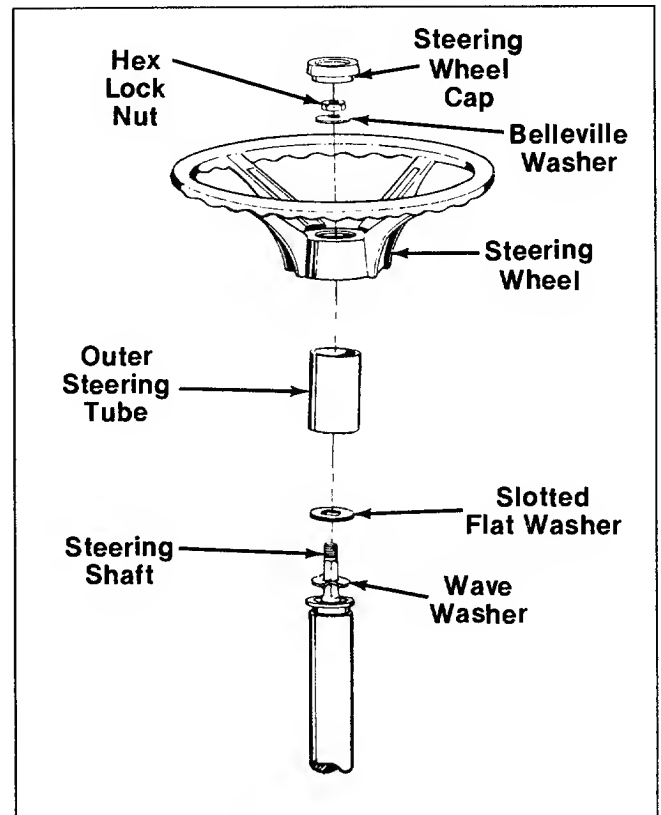


FIGURE 2.

2. Place the slotted flat washer over the steering shaft.
3. Place the outer steering tube over the steering shaft.
4. Place the steering wheel over the steering shaft, lining up the flats on the steering shaft.
5. Place the belleville washer (crown side up) over the steering shaft.
6. Tighten the hex lock nut.
7. Press or tap the steering wheel cap in place.

SEAT ASSEMBLY

Install the tractor seat in one of the four positions. To change positions, tip the seat all the way forward and lift it out of the slots on each side. See figure 3.

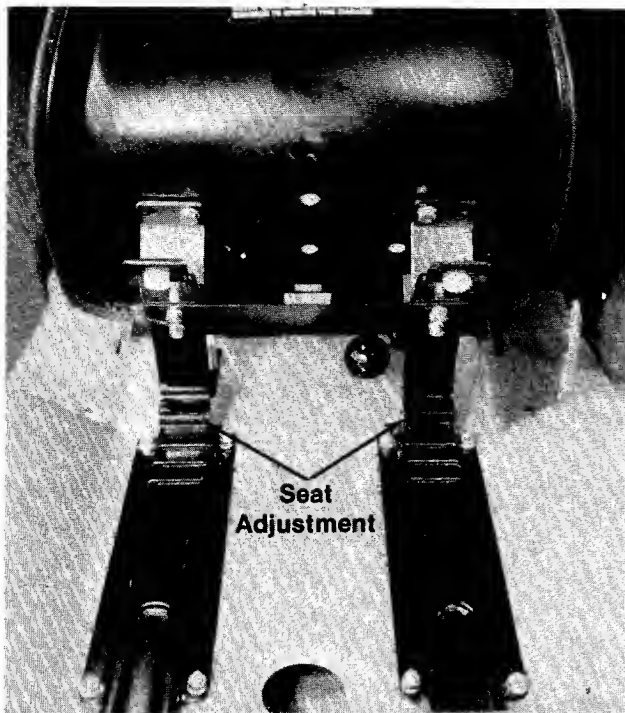


FIGURE 3.

ASSEMBLING THE THREE POINT HITCH

The three point hitch is needed for the rotary tiller, disc, cultivator and moldboard plow. If you are using the mowing deck, snow thrower or snow blade, it is not necessary to install the three point hitch.

1. Raise the lift shaft assembly until the hole in it lines up with the slot in the push bar assembly. See figure 4.



FIGURE 4.

2. Secure with clevis pin and hairpin cotter provided in the hardware pack.
3. Assemble the two draft bars to the link clevis pins in the frame of the tractor with two hairpin cotters.



Refer to figure 5 to determine right and left hand draft bars.

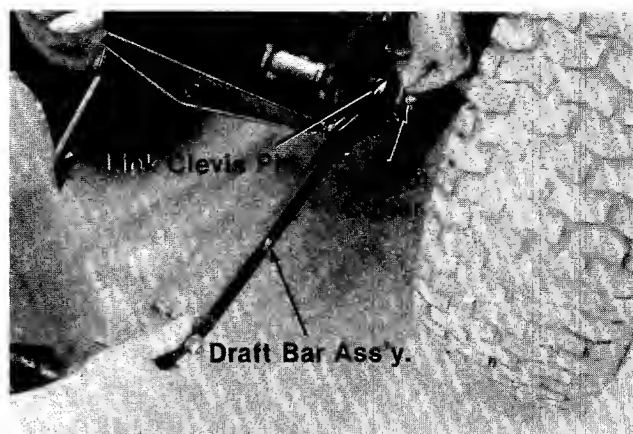


FIGURE 5.

4. Thread the ferrule onto the clevis screw until approximately a half inch of thread is showing above the ferrule. See figure 6.

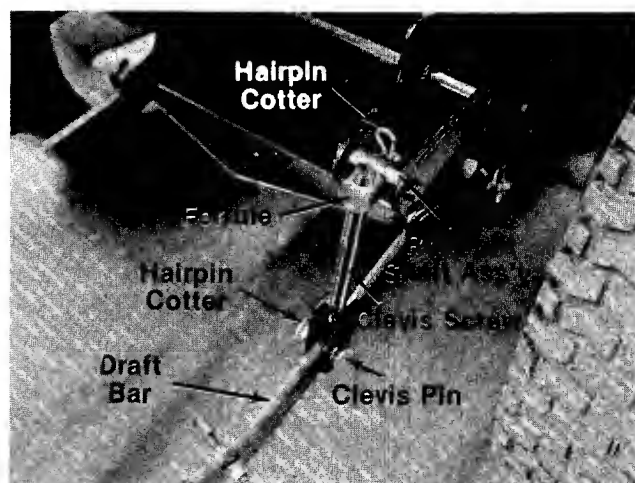


FIGURE 6.

5. Attach the ferrules to the rear lift shaft assembly and secure with two hairpin cotters.
6. Attach the lower end of the clevis screw to the draft bars with the two clevis pins and hairpin cotters.
7. Screw the two halves of the center turnbuckle together. Attach either end to any hole in the hitch bracket mounted in the center of the rear frame of the tractor with a clevis pin and hairpin cotter. See figure 7.

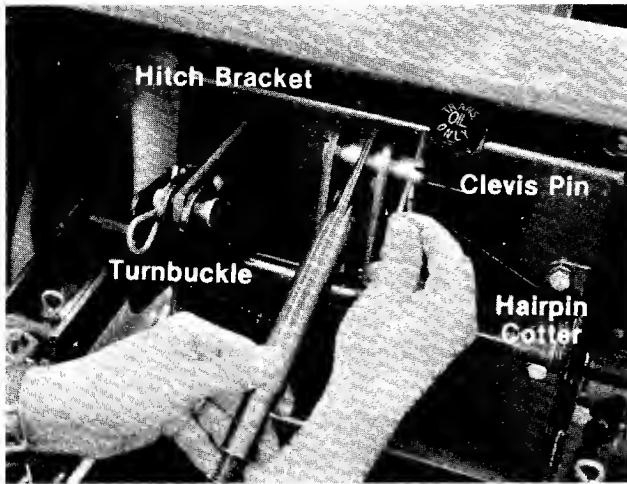


FIGURE 7.

8. Screw one hex nut all the way on to each of the hook bolts. See figure 8.
9. Insert the hook bolt through the inside of the draft bars. Secure with a second nut. Do not tighten.

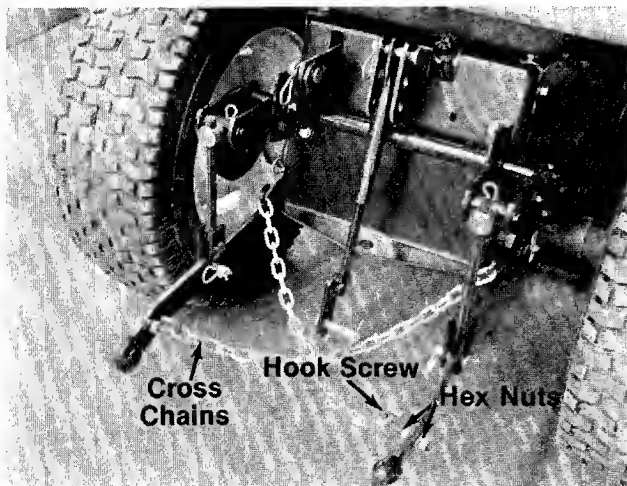


FIGURE 8.

10. Fasten the chains to the hooks welded on the draft bars. Cross the chains over and attach to the opposite hook bolts.



NOTE

Pull the chains to make them as tight as possible.

11. Tighten the outside nuts on the hook bolts until there is approximately one inch of play in the center of the chains.

TIRE PRESSURE

The tires have been over-inflated for shipping. Reduce the tire pressure to 15 p.s.i. for operation. Equal tire pressure should be maintained on all tires. Maximum tire pressure is 30 p.s.i.

CONTROLS

Throttle Control

The throttle control is located on the right side of the dashboard and is used to regulate the engine speed. See figure 9. The engine should be operated from $\frac{3}{4}$ to full throttle "FAST" when operating any equipment that uses the tractor engine as a source of power such as the cutting deck, snow thrower or rotary tiller.

Choke Control

The choke control is located on the left side of the dashboard and is operated manually.

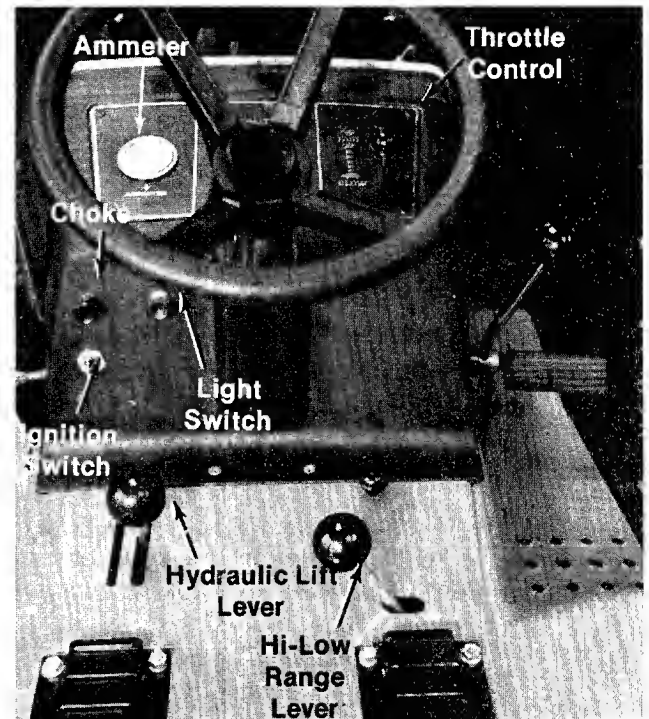


FIGURE 9.

Ignition Switch

The ignition switch is located on the left side of the dashboard. Turn the key to the "START" position to start the engine. When the engine is running, leave the key in the "ON" position. To stop the engine, turn the key to the "OFF" position. See figure 9.



Remove the key from the tractor when the tractor is not in use to prevent accidental starting.

Light Switch

The head lamps are operated by pushing the light switch located on the dashboard. The head lamps will only operate when the engine is running. The voltage rises from 8V at 2400 RPM to 12V at 3600 RPM, so the brightness of the lamps changes with the engine speed. See figure 9.

Ammeter

The ammeter registers the rate of battery charge or discharge. The ammeter should register on the plus (+) side when the engine is running fast. The engine alternator is unregulated and the output rises from 2 amperes at 2400 RPM to 3 amperes at 3600 RPM, and uses less than .2 of a horsepower. See figure 9.

High/Low Axle Range

Your tractor is equipped with a two speed rear axle for greater versatility. See figure 9. The LOW range is used when operating the rotary tiller, moldboard plow and should also be used when extra power is required.

HIGH range operation is for normal loads, grass cutting and normal use.

LOW Range (0-4 mph)

HIGH Range (0-8 mph)

The Axle Range Lever must be in either the HIGH or LOW range position. The tractor will not move if it is in the center position.



NOTE

When pushing the tractor by hand with the engine shut off, place the Axle Range Lever between the HIGH and LOW position. The hydrostatic pump will not rotate and the tractor will be easier to push.

Hydraulic Lift Lever

The hydraulic lift lever is used to raise or lower all of the tractor attachments. Move the lever forward to lower the attachment. Move the lever backwards to raise the attachment. See figure 9.

Located next to the hydraulic lift lever is the lift indicator that registers the approximate position of the attachments.

Power Take-Off Operation (PTO)

There are two PTO locations. The front PTO operates the snow blower. The rear PTO operates the rotary mower and rotary tiller.

The PTO is operated by the PTO lever, located on the right side of the tractor. See figure 10. When the PTO lever is forward, the PTO is engaged.

Be sure dust cap is installed on front PTO when snow blower is not in use.



NOTE

The PTO lever must be in the "OFF" position to start the engine and to shift into reverse.

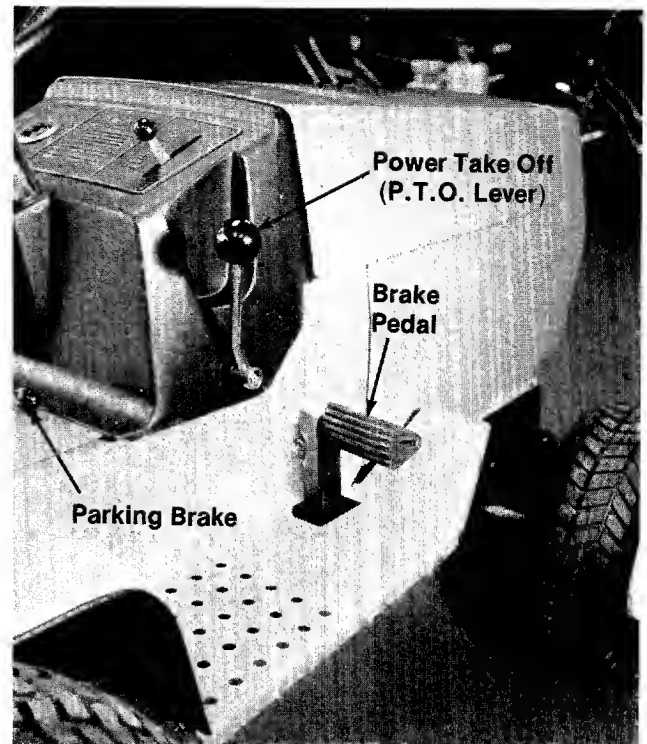


FIGURE 10.

Brake Pedal

The brake pedal is located on the right side of the tractor. Depressing the brake pedal operates the brake. It is used for emergency stopping only. When you depress the brake pedal, the control lever will return close to the "NEUTRAL" position. The control lever is used for normal stopping. See figure 10.



NOTE

The brake pedal must be depressed to start the engine. Setting the parking brake will NOT activate the safety switch.

Parking Brake

To set the parking brake, depress the brake pedal and lift up the parking knob. Slowly release the brake pedal until it holds the parking brake knob in the up position. To release the parking brake, depress the brake pedal. See figure 10.

Control Lever (Hydrostatic)

The control lever is used to regulate the ground speed of the tractor. Moving the control lever to its extreme position makes the tractor travel faster. Moving the control lever forward (F) moves

the tractor forward. Moving the control lever backwards (R) reverses the tractor. See figure 11.

To increase rear wheel torque (pulling power), move the control lever towards the "NEUTRAL" position. The tractor responds similar to shifting to a lower gear with a gear type transmission.

The control lever is used for normal slowing down and stopping by moving the control lever towards "NEUTRAL" (N). Additional braking may be obtained by moving the control lever gradually in the opposite direction of travel. The control lever is especially useful when rotary tilling hard or rough ground.

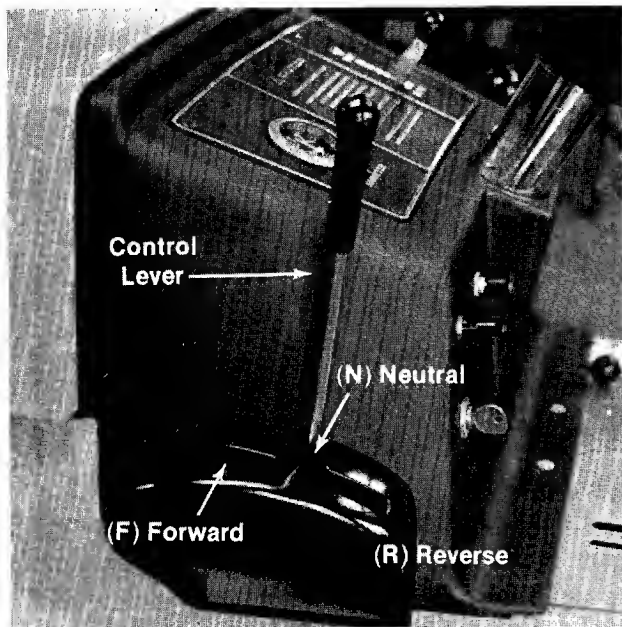


FIGURE 11.

OPERATION



CAUTION

1. Keep all shields in place.
2. Before leaving operator's position:
 - a. Shift transmission to neutral
 - b. Set parking brake
 - c. Disengage attachment clutch
 - d. Shut off engine
 - e. Remove ignition key
3. Wait for all movement to stop before servicing machine.
4. Keep people and pets a safe distance away from machine.
5. Look to the rear before backing up.

CAUTION
DO NOT OPERATE
MOWER UNLESS
GUARD OR ENTIRE
GRASS CATCHER IS
IN ITS PROPER PLACE.

PREPARATION

1. Put oil in engine crankcase. Refer to separate engine manual packed with the unit for engine oil recommendations.

Place the engine level. Fill the oil sump to the FULL mark on the dipstick. Do not overfill. Pour slowly. See figure 12.

Crankcase Capacity—Approximately 3 Pints.

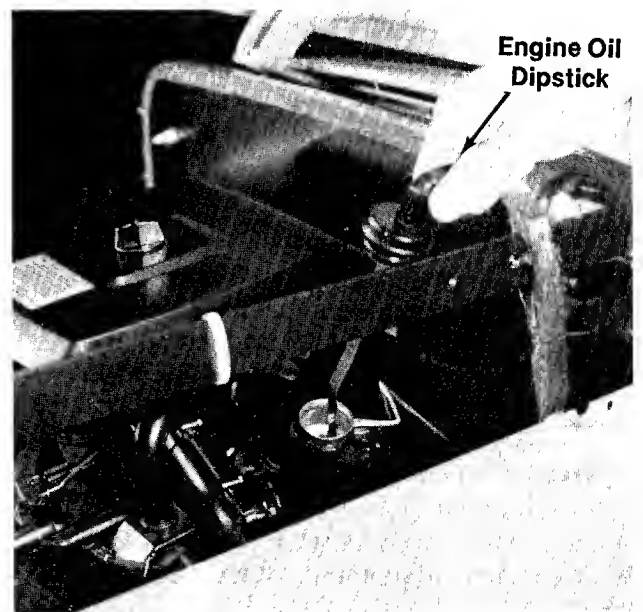


FIGURE 12.

2. Fill the fuel tank with clean, fresh, lead-free low-lead, or regular grade leaded gasoline. DO NOT MIX OIL WITH GASOLINE.
3. Check the oil level in the hydrostatic transmission. Refer to Maintenance Section on page 17.
4. Open the fuel tank shut-off valve that is located on the bottom of the fuel tank.

OPERATING THE TRACTOR (See Figure 13)

NOTE

This unit is equipped with a safety interlock system for your protection. The purpose of the safety interlock system is to prevent the engine from cranking or starting unless the transmission is shifted into neutral and the PTO lever is in the disengaged position. In addition, the PTO lever must be in the disengaged position when the unit is put into reverse or the engine will shut off.



WARNING

Do not operate the tractor if the interlock system is malfunctioning because it is a safety device, designed for protection.

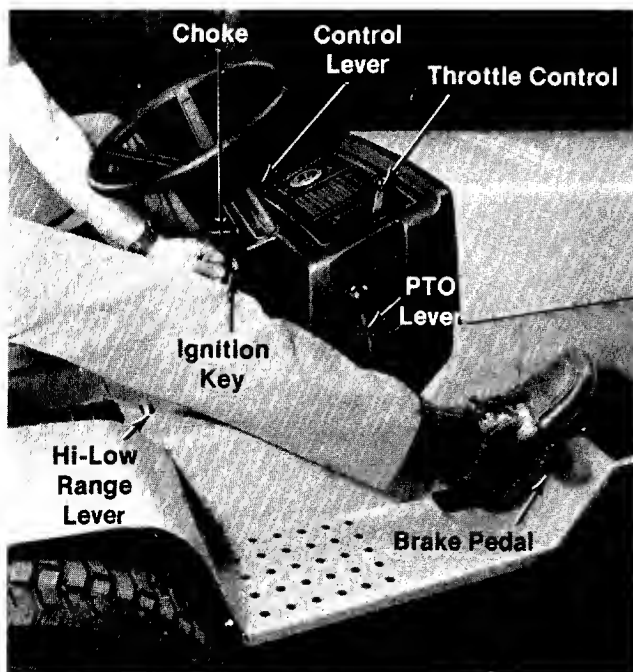


FIGURE 13.

1. Place the PTO Lever in the "OFF" position.
2. Set the High/Low Range Lever in either the high or low range.
3. Depress the brake pedal and hold it down.
4. Pull out the choke.

NOTE

A warm engine requires less choking.

5. Set the throttle control in the "FAST" position.
6. Turn the ignition key to the right to the "START" position until the engine is running.
7. As the engine warms up, push in the choke slowly.
8. Release the brake pedal and move the hydrostatic control lever into either the forward or reverse position.
9. The brake pedal is used for emergency stopping only. Use the control lever to stop normally. When the brake pedal is depressed, the control lever will return close to the "NEUTRAL" position so the tractor brake will stop the tractor. However, the tractor may creep either forward or backward when the brake pedal is released.

IMPORTANT

If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the tractor for any damage, and repair the damage before restarting and operating the tractor.

ADJUSTMENT OF UNDERCARRIAGE

When using any of the rear mounted attachments such as the rotary tiller or moldboard plow, the undercarriage must be locked in the raised position. See "Undercarriage Locks" in the adjustment section of this manual for instructions.

ADJUSTMENTS

NEUTRAL ADJUSTMENT FOR THE HYDROSTATIC CONTROL LEVER (See Figure 14)

If the hydrostatic control lever does not return to the neutral notch on the hydrostatic control lever guide when the brake pedal is depressed (see figure 11), make the following adjustment:

1. Loosen the shoulder bolt and nut on the neutral control slide.
2. Depress the brake pedal and set the parking brake.
3. Move the hydrostatic control lever into the neutral notch.
4. Tighten the shoulder bolt and nut on the neutral control side.

NOTE

If the tractor creeps while the hydrostatic control lever is in "NEUTRAL," the controls at the hydrostatic transmission must be adjusted.

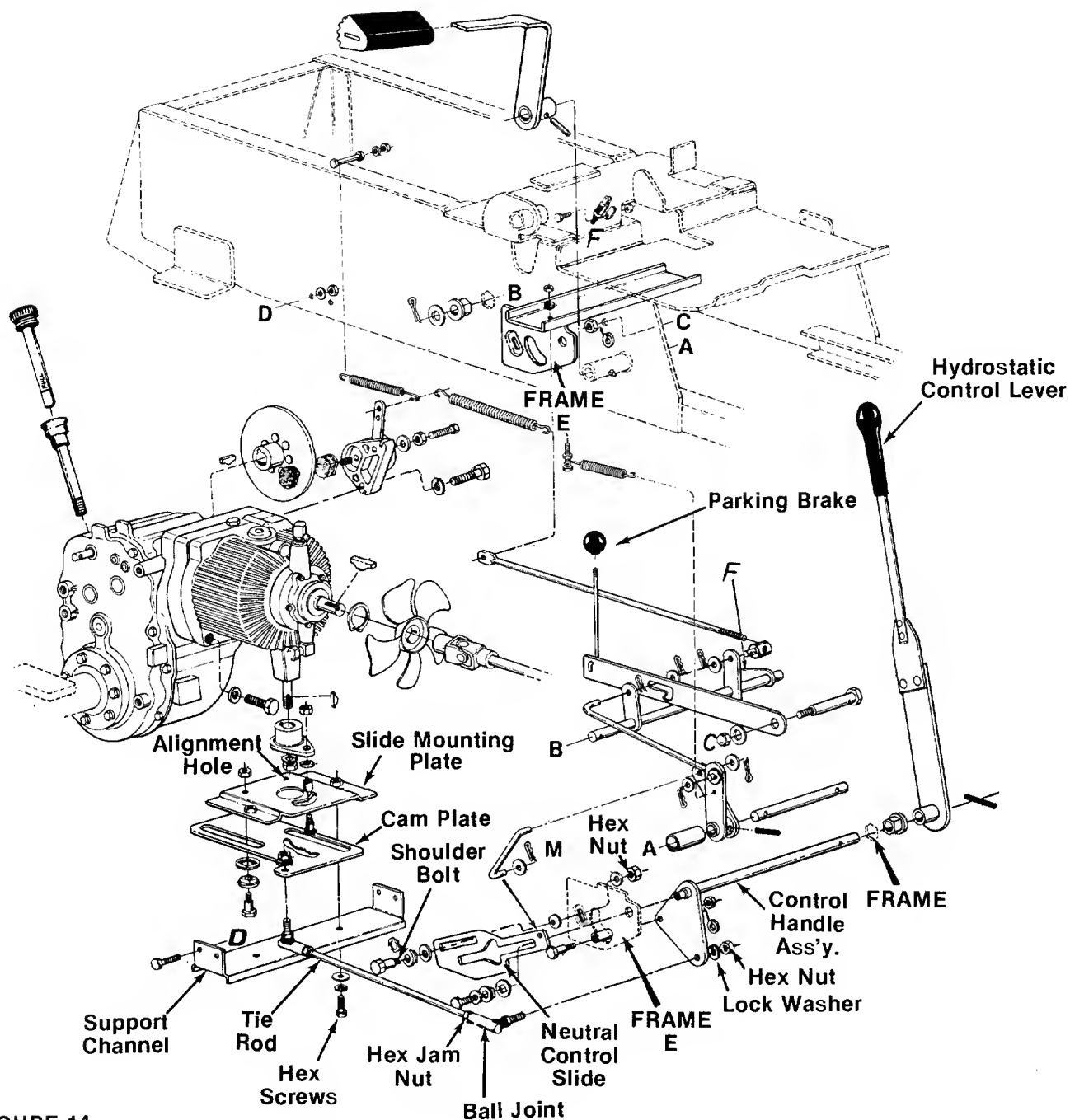


FIGURE 14.

HYDROSTATIC TRANSMISSION CONTROL ADJUSTMENT

1. Block the rear of the tractor up so both rear wheels are off the ground.
2. Remove the ball joint hex nut and lock washer from the control handle assembly. See figure 14.
3. Loosen the hex jam nut on the tie rod at the front ball joint.
4. Loosen (do not remove) the two hex screws holding the support channel to the cam plate.
5. Move the cam plate forward or backward until

the alignment hole in the slide mounting plate and cam plate line up.



Use a 5/16" bolt or rod through the alignment holes in the cam plate and slide mounting plate.

6. Start the engine and run at idle.
7. Tighten the two hex screws in the support channel.
8. Shut off the engine.
9. Set the parking brake.

10. Adjust the ball joint on the tie rod until it lines up exactly with the hole in the control handle assembly. Secure with the lock washer and hex nut.
11. Tighten the hex jam nut on the tie rod at the ball joint.
12. Remove 5/16" bolt on rod from alignment hole in cam plate.

REAR WHEEL TRACK ADJUSTMENT

The rear wheels may be adjusted wider for more stability by reversing the wheels and rims on the hubs.

With the rear wheels in the narrow position, their outside is even with the outside of the front wheels. With the rear wheels in the wide position, their inside is even with the outside of the front wheels.

Use this chart to determine the rear wheel setting.

ATTACHMENT	MODEL NO.	WHEEL SET
50" Mowing Deck	193-993	N
12" Moldboard Plow	193-920	W/N
Tandem Disc Harrow	193-921	N
Spring Tooth Cult.	193-922	N
54" Snow Blade	193-985	N
48" Snow Thrower	193-955	N
40" Rotary Tiller	193-981	N

N—Narrow W—Wide

Rear Wheel Chains	193-965
75 pound (each) Wheel Weights	193-977

HYDRAULIC LIFT VALVE ADJUSTMENT

The valve is located under the left side of the tractor frame under the hydraulic lift lever. See figure 15.

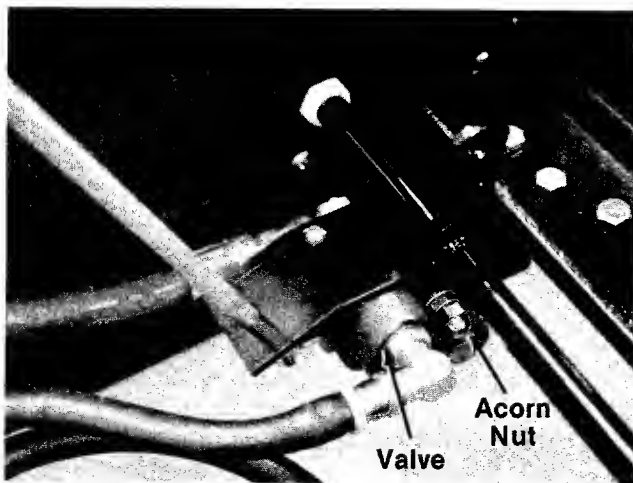


FIGURE 15.

The hydraulic lift valve is adjustable. Before making adjustments to the valve, be sure the engine is running at a maximum speed of 3600 RPM. If the hydraulic lift will not raise your attachments, especially the heavier ones, you can increase the pressure. The equipment being used should be attached to the tractor during the adjustment.

1. Remove the acorn nut and washer. See figure 16.

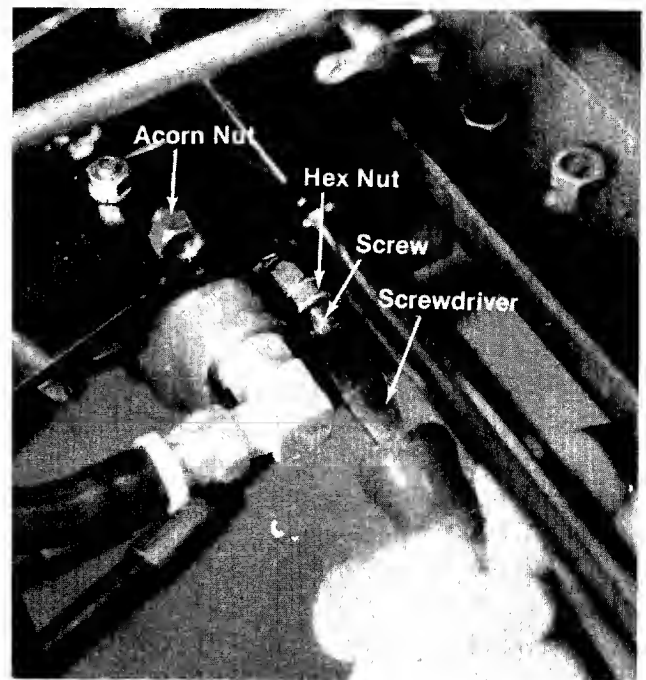


FIGURE 16.

2. Back off the lock nut at least three complete turns.
3. Turn the screw one complete turn in.
4. Tighten the lock nut.
5. Reassemble acorn nut and tighten.
6. Test the operation of the lift valve with the attachment on the tractor and the tractor engine running at full throttle.
7. If necessary, repeat the above steps.

If a pressure gauge is used, insert a "T" fitting between the charge pump on the hydrostatic transmission and the valve. Use a 1000 p.s.i. pressure gauge.

1. Start the engine and run at full throttle.
2. Check engine speed with a tachometer. Engine should be running at 3500 to 3600 RPM.

3. Move the hydraulic lift lever all the way either direction and hold it until the relief valve opens. The gauge should read 700 p.s.i.
4. If necessary, adjust relief valve as described above.

BRAKE ADJUSTMENT

During normal operation of this machine, the brakes are subject to wear and will require periodic examination and adjustment.



CAUTION

Do not have the engine running when you adjust the brake.

The brake is located on the left side of the transaxle. The adjustment access hole is above the left rear axle mounting bracket. See figure 17.

To adjust:

1. Loosen the lock nut with an 11/16" wrench.
2. With a 7/16" socket and extension, tighten the center bolt until the pads are pushed against brake disc.
3. Back off the center bolt one half turn and tighten the lock nut.
4. Test the brake operation.

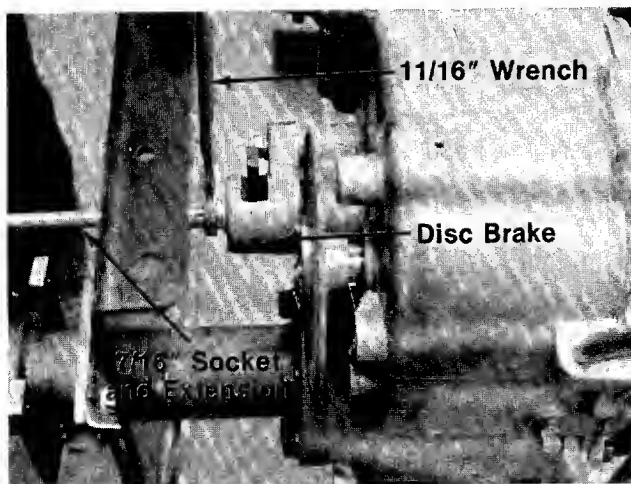


FIGURE 17.
UNDERCARRIAGE LOCKS

The maximum down position can be set on the undercarriage for the mowing deck. See figure 18. There are six positions. This adjustment should be used with the deck roller adjustment so the mowing deck is always cutting parallel to the ground. To change the locks, remove the hairpin cotter, clevis pin and spacer and install in the desired hole. Both locks must be adjusted in the same position.

When setting the cutting height, lower the deck with the hydraulic lift until the undercarriage bottoms out against the locks.

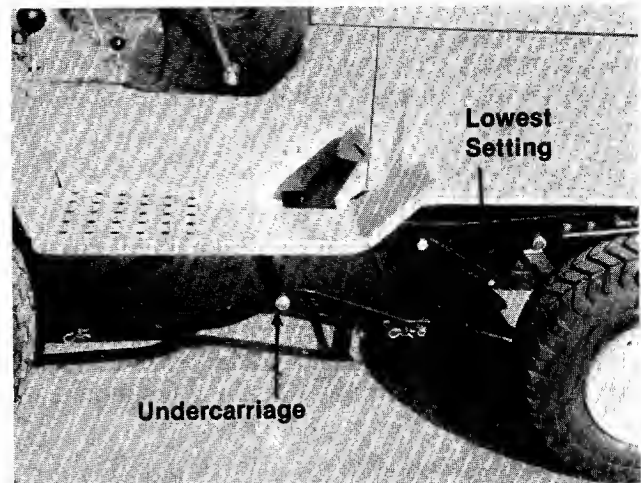


FIGURE 18.

The undercarriage locks are also used to hold the undercarriage in the completely raised position when using any of the rear mounted attachments or to prevent the undercarriage from moving up and down. See figure 19.

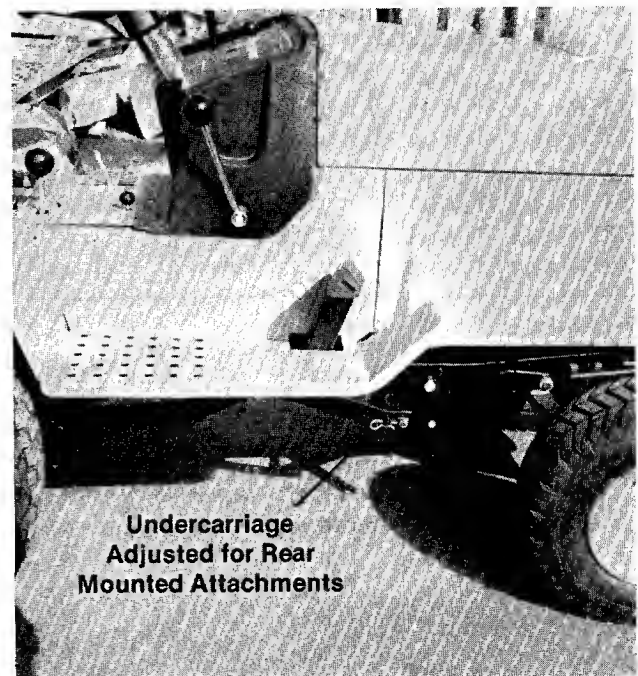


FIGURE 19.

CARBURETOR ADJUSTMENT



WARNING

If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage all clutches and blades. Keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load. To adjust the carburetor refer to the separate engine manual packed with your tractor.

PTO ADJUSTMENT

The PTO cable can be adjusted at either end. To adjust, loosen the nut on the inside and tighten the nut on the outside to compensate for cable stretch. Adjust until the idler depresses the safety switch plunger within 1/8" of bottoming out in the switch when the PTO is in the "OFF" position. See figures 20 and 24.

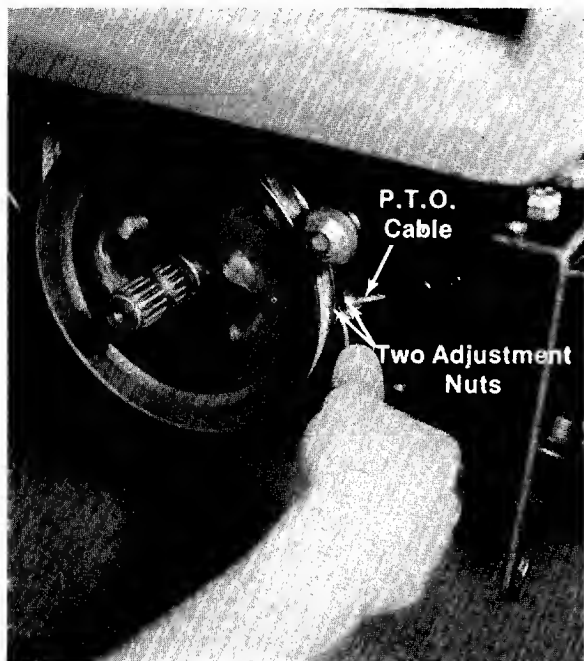


FIGURE 20.

WHEEL ALIGNMENT

The front wheels should toe-in approximately 1/8". Measure the distances A and B on the front wheels. See figure 21.



Dimension B should be approximately 1/8 inch less than dimension A.

To adjust the toe-in, loosen the hex jam nut, remove the hex nut and lock washer. Lift the tie rod end out of the hole in the steering arm. Screw the tie rod ends in or out as necessary. See figure 22.

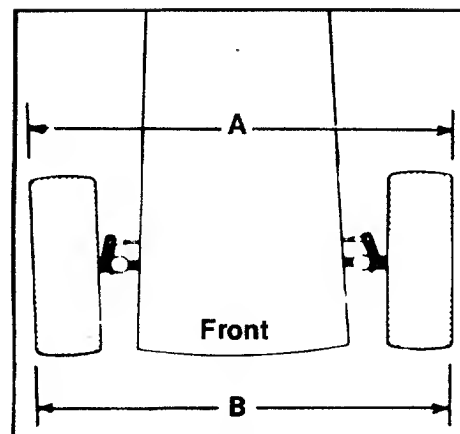


FIGURE 21.

Reassemble the tie rod end after the correct alignment is made.

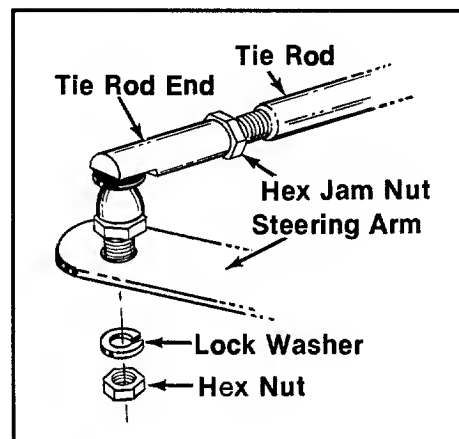


FIGURE 22.

GRASS CATCHER Model 015 is available as optional equipment.



The mower should not be operated without the entire grass catcher or chute deflector in place.

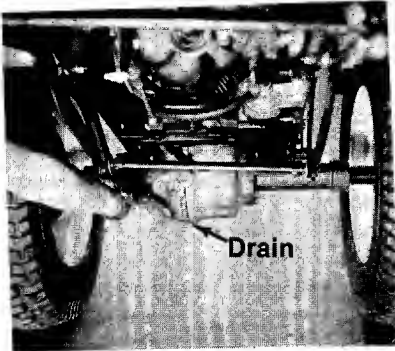


Under normal usage bag material is subject to wear, and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations.

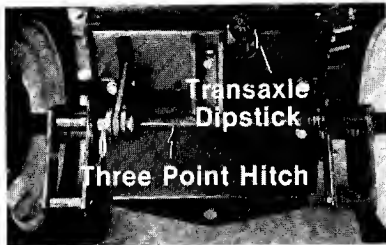
For replacement bags, use only factory authorized replacement bag No. 764-0121.

LUBRICATION

Hydrostatic Pump—Check the oil level after every 8 hours of operation. Change oil and filter after every 100 hours of operation or once a year. Use SAE 20 motor oil with a “SE” rating. Check oil level when the hydrostatic oil is cold.



Steering Gears—Wipe off old grease and dirt. After every 25 hours of operation, place an automotive multi-purpose grease in the teeth of the segment and pinion gears.



King Pins—One on each side of the tractor. Lubricate with a grease gun after every 25 hours of operation. Use automotive multi-purpose grease.



PTO Engagement Lever—Lubricate with a grease gun after every 25 hours of operation. Use an automotive multi-purpose grease.



Brake Pedal—Located on the right hand side of tractor. Lubricate with a grease gun after every 25 hours of operation. Use automotive multi-purpose grease.

MAINTENANCE



WARNING

Disconnect the spark plug wire and ground against the engine before performing any adjustments, repairs or maintenance.

POWER TAKE-OFF (PTO) BELT REMOVAL

1. Take off the front PTO belt guard assembly by removing four hex screws. See figure 23.

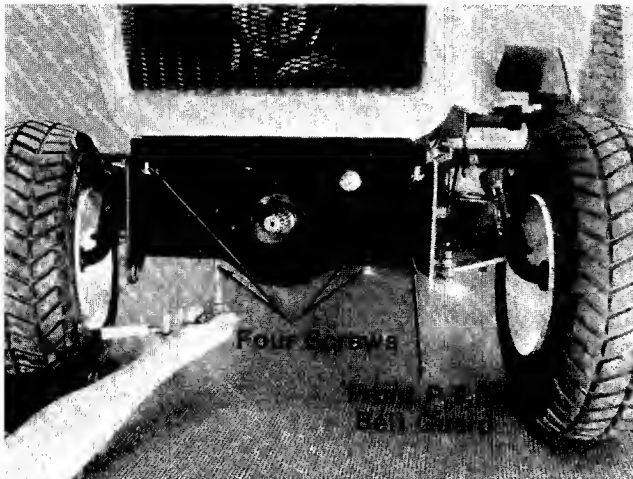


FIGURE 23.

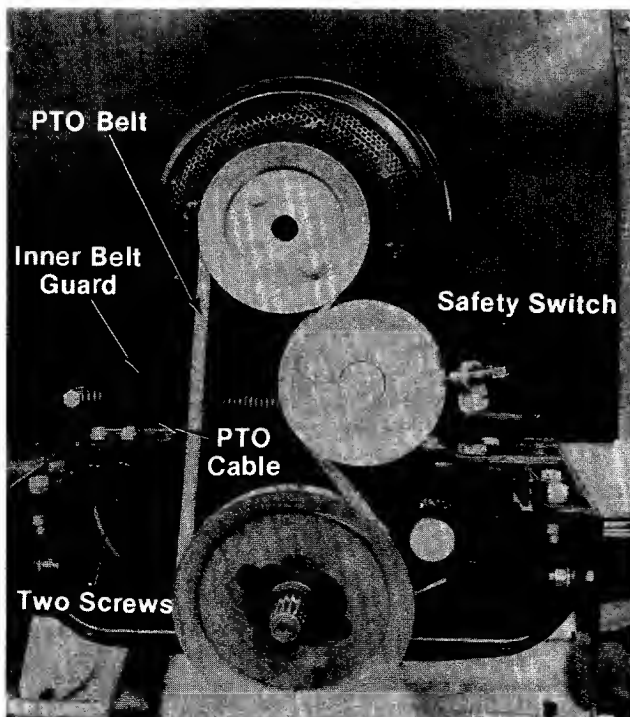


FIGURE 24.

2. Put the PTO lever in the "OFF" position.
3. Loosen two screws on inner belt guard. See figure 24.



Figure 24 was photographed with grille removed for clarity.

4. Remove V-belt. Reassemble using a new O.E.M. V-belt, part number 754-0234.

HYDROSTATIC TRANSMISSION OIL

The dipstick for the hydrostatic transmission is located behind the seat. This dipstick checks the oil level in the hydrostatic transmission, transaxle and hydraulic lift system. See figure 25.



FIGURE 25.

Check the oil level every 8 hours of operation. Before checking the oil level, clean the area around the dipstick hole to prevent the entry of dirt. Unscrew the dipstick and remove. The oil level should be maintained at the "FULL" mark.



Check oil level when the hydrostatic oil is cold.

The following fluids are recommended for use in the hydrostatic transmission.

1. Mobil Fluid 300
2. Texaco TL-2209
3. Dexron B (General Motors)
4. M2C-33F and M2B-41A (Ford Motor)

5. Hy-Tran (International Harvester)
6. 10W + Straight Viscosity—SE, CC or CD Rated Engine Oil
- **7. 20W + Straight Viscosity—SE, CC or CD Rated Engine Oil.
8. 30W + Straight Viscosity—SE, CC or CD Rated Engine Oil.

**Preferred.



CAUTION

Never use a multi-viscosity oil.

Change oil and filter initially after twenty hours of operation; thereafter, change every 100 hours or once a year.

OIL FILTER

A full flow replaceable oil filter, located in the oil lines under the left side of the frame, should be replaced initially after twenty hours of operation. Thereafter, replace every 100 hours for commercial or industrial applications and yearly for normal usage. It can be removed by turning it counterclockwise by hand. Use Fram filter number PH-16; order part number 727-0162. See figure 26.

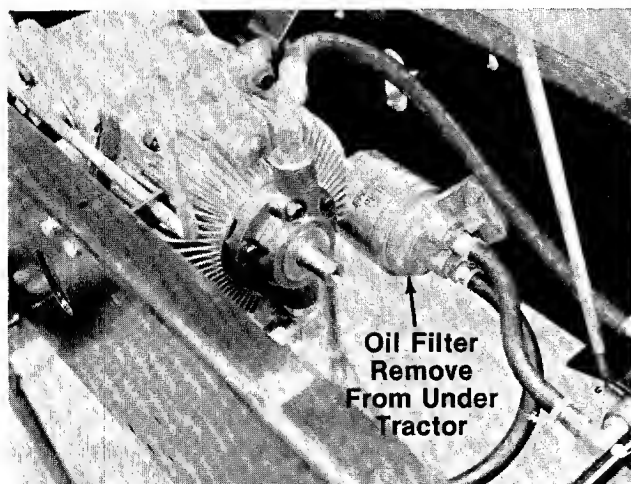


FIGURE 26.

ENGINE CRANKCASE OIL

Check the oil level in the crankcase before each use of the unit. Maintain the oil level at the FULL mark on the dipstick. Refer to figure 12.

Change the oil after the first 5 hours of operation and every 25 hours thereafter. Remove plug and drain oil while engine is warm. See figure 27.

Refill crankcase with quantity and type of oil as specified on page 10.

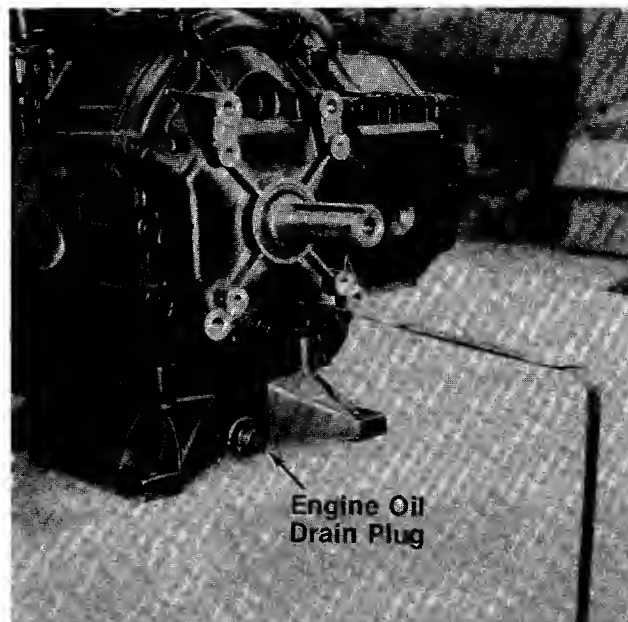


FIGURE 27.

FUEL SHUT-OFF VALVE AND FILTER

(See Figure 28)

The valve and filter is located on the bottom of the gasoline tank. Turn the valve knob in to shut off the fuel flow. Turn the valve knob out to operate the tractor.

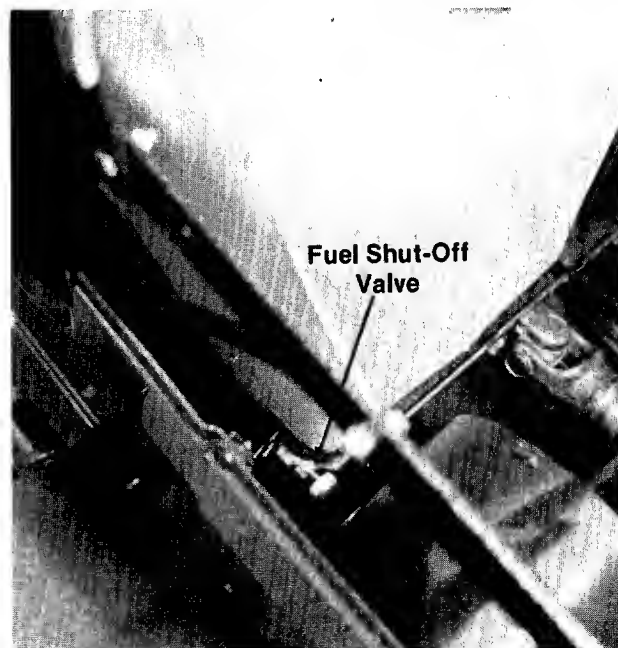


FIGURE 28.

The entire valve can be pulled out to clean the filter. When reassembling, place the grommet into the gasoline tank first. Then push the valve all the way in.



WARNING

Only use factory approved parts if repairs are needed on the gasoline tank, grommet valve or gasoline line.

AIR CLEANER

Service air cleaner at 3 month intervals or every 25 hours, whichever occurs first. To service the air cleaner, refer to the separate engine manual packed with the tractor.

SIDE PANELS

The right and left side panels can be removed for maintenance or attaching accessories. To remove, turn the four screws in the corners a 1/4 turn to the left and remove. See figure 29.

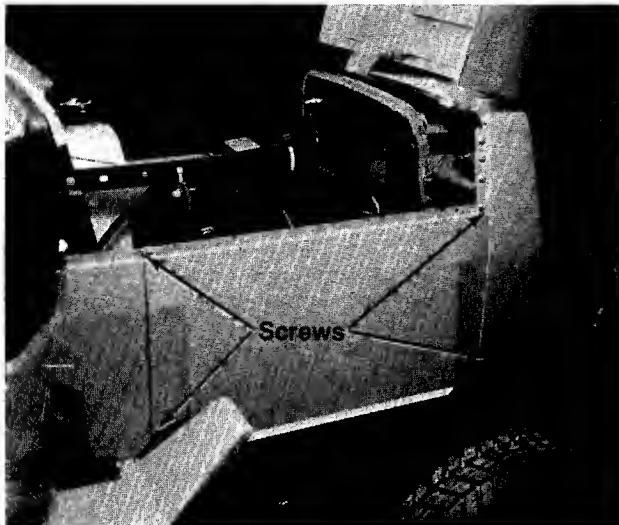


FIGURE 29.

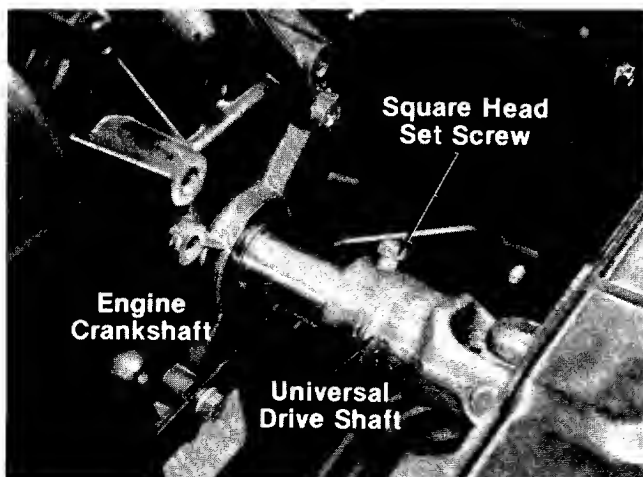


FIGURE 30.

DRIVE SHAFT REMOVAL

1. Loosen the square head set screw on the front universal joint. See figure 30.
2. Slide the drive shaft assembly forward as far as it will go. The rear universal joint can be removed from the input shaft of the hydrostatic transmission. See figure 31.
3. Remove the drive shaft assembly from the tractor.



NOTE

There is a square key at the engine crankshaft and a hi-pro key at input shaft of transmission. **Do not lose.**

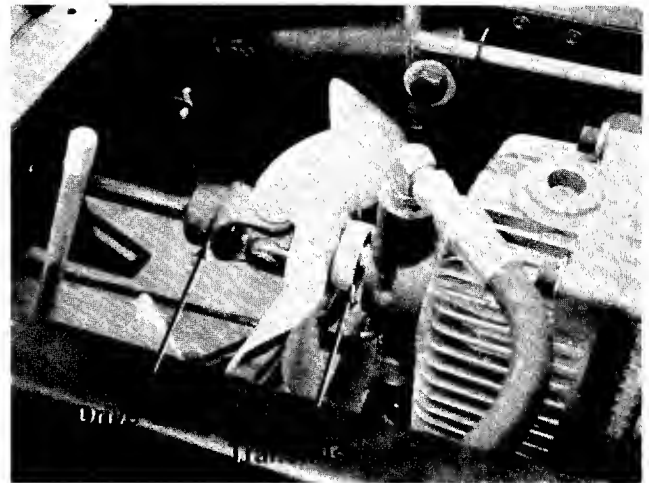


FIGURE 31.

INSTALLATION OF TIRE TO RIM



WARNING

The following procedure must be followed when removing or installing a tire to the rim.

1. Lubricate the tire beads and rim flanges.
2. Do not exceed 30 psi when seating beads.
3. Adjust to recommended pressure after beads are sealed.

MAINTENANCE OF BATTERY

1. Check electrolyte level periodically (at least every two weeks). Keep the level to the split rings. Use only distilled water. Never add acid or any other chemicals to the battery after initial activation.

2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225, the battery should be recharged. Maximum charge rate 5 AMPS.
3. Coat the terminals and exposed wire with a thin coat of grease or petroleum jelly for longer service and protection against corrosion.
4. The battery should be kept clean. Any deposits of acid should be neutralized with soda and water. Be careful not to get this solution in the cells.
5. Avoid tipping the battery. Even a "sealed" battery will leak electrolyte when tipped.

STORAGE OF THE BATTERY

1. Store the battery in the unit.
2. Keep the exterior of the battery clean, especially the top. A dirty battery will discharge itself.
3. Check the battery with a hydrometer. The battery must be stored with a full charge. A discharged battery will freeze.

Specific Gravity	Freezing Point
1.265	- 71°F.
1.250	- 62°F.
1.200	- 16°F.
1.150	5°F.
1.100	16°F.



CAUTION

All batteries discharge during storage.

4. Recharge battery whenever the specific gravity is less than 1.225, before returning to service or every two months, whichever comes first.

COMMON CAUSES FOR BATTERY FAILURE

1. Overcharging
2. Undercharging
3. Lack of water
4. Loose hold downs and/or corroded connections
5. Excessive loads
6. Battery electrolyte substitutes
7. Freezing of electrolyte



NOTE

These failures do not constitute warranty.

BATTERY REMOVAL OR INSTALLATION



WARNING

When removing the battery, follow this order of disassembly to prevent your wrench from shorting against the frame.

1. Remove the Negative cable.
2. Remove the Positive cable.

To install a battery:

1. Attach the Positive cable.
2. Attach the Negative cable.

JUMP STARTING

1. Attach the first jumper cable from the Positive terminal of the good battery to the Positive terminal of the dead battery.
2. Attach the second jumper cable from the Negative terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BATTERY.



WARNING

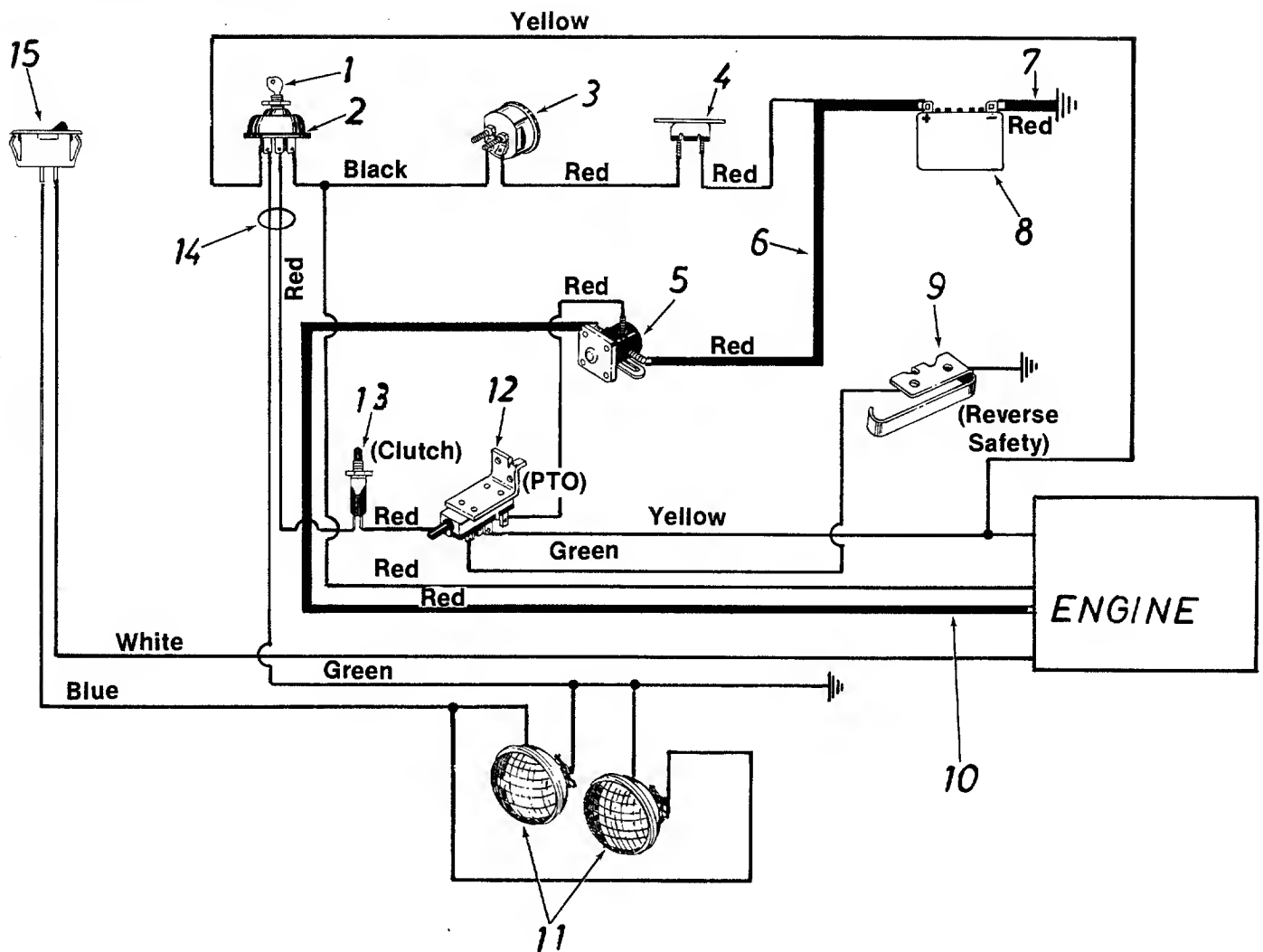
Failure to use this starting procedure could cause sparking, and the gases in either battery could explode.

OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, the following procedures are recommended:

1. Clean the engine and the entire unit thoroughly.
2. Lubricate all lubrication points. Wipe the entire machine with an oiled rag to protect the surfaces.
3. Refer to the engine manual for correct engine storage instructions. The engine must be completely drained of fuel to prevent gum deposits from forming on essential carburetor parts, fuel lines and fuel tanks.
4. Refer to battery storage instructions in previous column.
5. Store unit in a clean, dry area.

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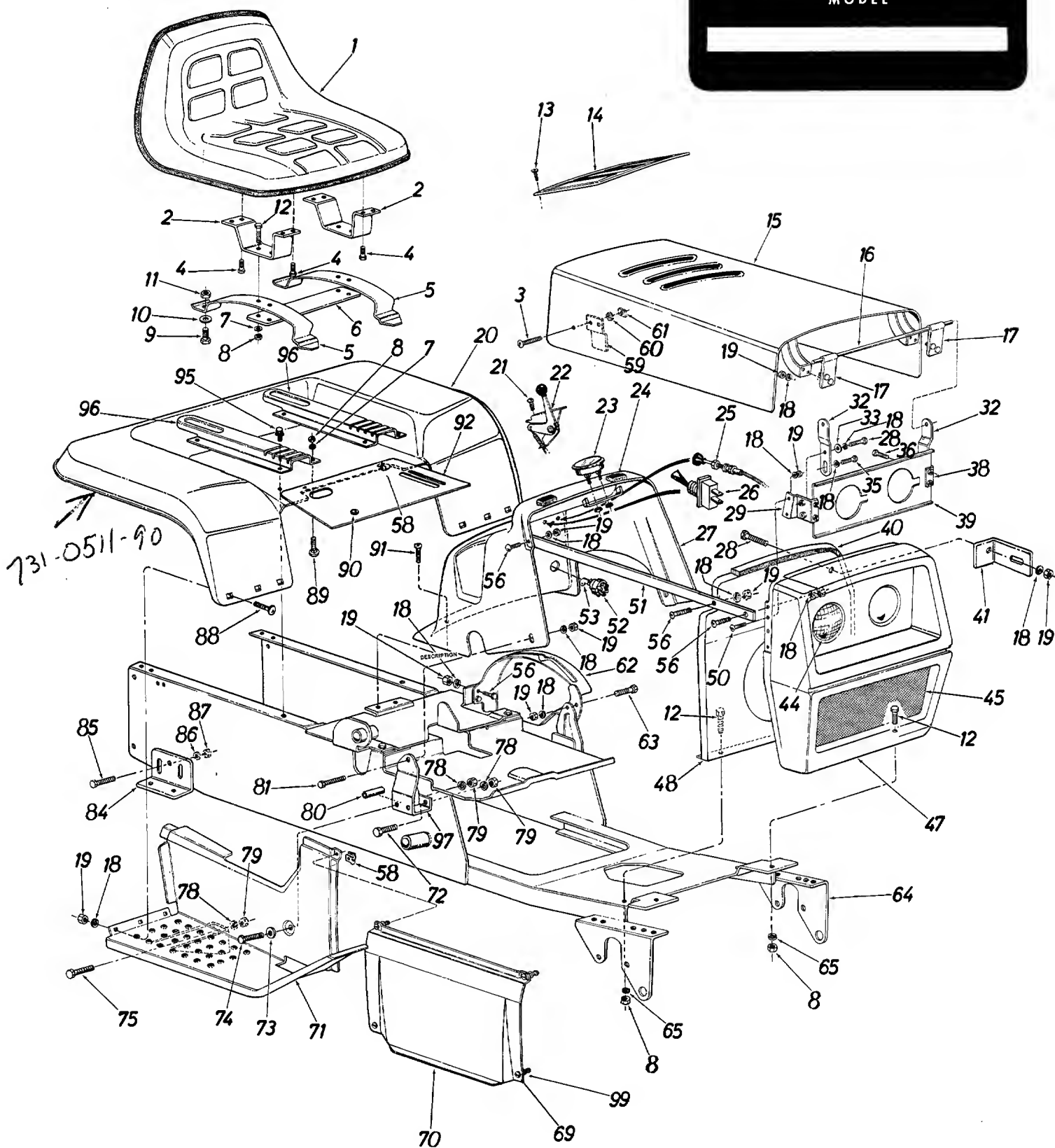


PARTS LIST FOR ELECTRICAL SYSTEM

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0201	Ignition Key	
2	725-0267	Ignition Switch	
3	725-0119	Ammeter	
4	725-0459	Circuit Breaker	
5	725-0771	Solenoid	
6	725-0558	Electric Wire	
7	725-0561	Electric Wire	
8	725-0453	Battery	
9	725-0758	Spring Switch (Reverse Safety)	
10	725-0558	Electric Wire	
11	725-0222	Headlights	
12	725-0842	Safety Switch (PTO)	
13	725-0577	Safety Switch (Clutch)	
14	725-0843	Wire Harness	
15	725-0646	Light Switch	

Model 995

IF YOU WRITE TO US ABOUT THIS ARTICLE
OR IF YOU ORDER REPLACEMENT PARTS AL-
WAYS MENTION THIS MODEL & SERIAL NO
MODEL



MAIN BODY

Model 995

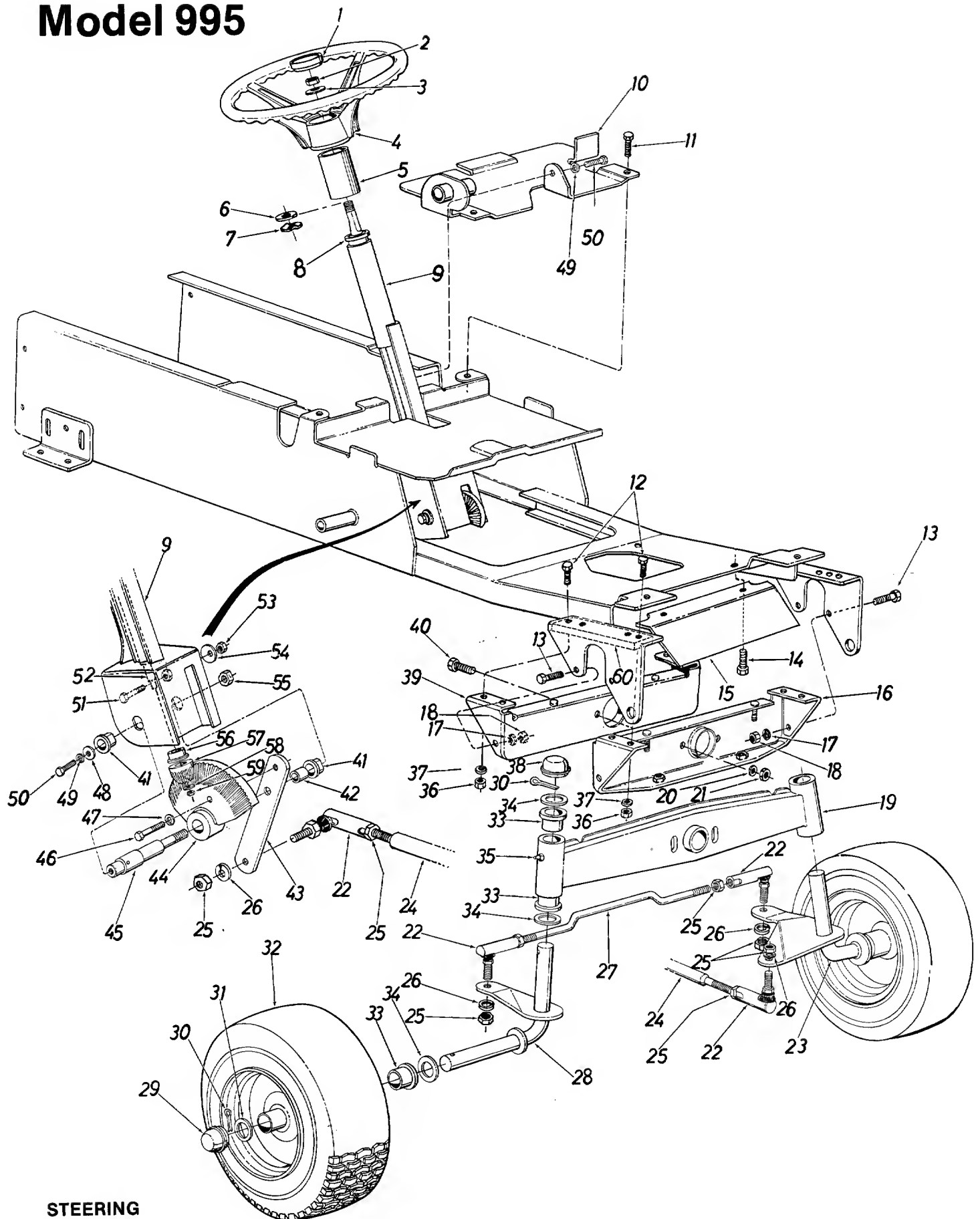
PARTS LIST FOR MODEL 995 HYDROSTATIC TRACTOR

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	757-0286		Seat Ass'y. Comp.		51	13725		Grille Strap	
2	14225		Seat Support Brkt.		52	725-0267		Ignition Switch	
3	710-0192		Truss Hd. Mach. Scr. #10-24 x .38" Lg.		53	725-0201		Ignition Key	
4	710-0623		Hex Wash. Hd. Self-Tap Scr. 3/8-16 x .75" Lg.		56	710-0252		Hex Scr. 1/4-20 x .75" Lg.*	
5	13123		Seat Spring		58	726-0169		Clip-On Receptacle	
6	13214		Seat Support Plate		59	732-0391		Hood Spring	
7	736-0119		L-Wash. 5/16" Scr.*		60	736-0722		L-Wash. #10	
8	712-0267		Hex Nut 5/16-18 Thd.*		61	712-0121		Hex Nut #10-24	
9	710-0689		Nylon Scr. 1/2-13 x .75" Lg.		62	13528		Speed Control Guide	
10	736-0160		FI-Wash. .531 I.D. x .930 O.D.		63	710-0255		Truss Mach. Scr. 1/4-20 x .75" Lg.*	
11	712-0384		Hex Cent. L-Nut 1/2-13 Thd.		64	13509		Frame Ass'y.	
12	710-0118		Hex Scr. 5/16-18 x .75" Lg.*		65	736-0242		Bell-Wash. 5/16" Scr.*	
13	710-0697		Self-Tap Oval Hd. Scr. 1/2" Lg.		69	726-0167		1/4-Turn Stud	
14	731-0384		Dash Panel Cover		70	13525		Hood Lower Side Panel	
15	13472		Hood Ass'y.		71	13576		Foot Step Panel Ass'y.— R.H.	
16	747-0231		Hinge Rod			13577		Foot Step Panel Ass'y.—L.H. (Not Shown)	
17	13581		Hood Hinge Ass'y.		72	710-0253		Hex Scr. 3/8-16 x 1.00" Lg. Grade 5	
18	736-0329		L-Wash. 1/4" Scr.*		73	736-0117		FI-Wash. .385 I.D. x .62 O.D.	
19	712-0287		Hex Nut 1/4-20 Thd.*		74	710-0194		Hex Scr. 3/8-16 x 3.00" Lg.*	
20	13106		Rear Fender		75	710-0253		Hex Scr. 3/8-16 x 1.00" Lg. Grade 5	
21	710-0721		FI-Hd. Truss Scr. #10 x .62" Lg.		78	736-0169		L-Wash. 3/8" Scr.*	
22	746-0342		Throttle Control		79	712-0798		Hex Nut 3/8-16 Thd.*	
23	725-0119		Ammeter		80	750-0261		Spacer .375 I.D. x .62 O.D. x 2.00" Lg.	
24	735-0199		Rubber Bumper		84	13066		Transaxle Support Brkt.	
25	746-0343		Choke Control		85	710-0617		Rd. Hd. Rib Neck Scr. 3/8-24	
26	725-0646		Light Switch		86	736-0217		L-Wash. 3/8" Scr.*	
27	731-0463		Dash Panel		87	712-0241		Hex Nut 3/8-24 Thd.*	
28	710-0258		Hex Scr. 1/4-20 x .62" Lg.*		88	710-0167		Carr. Bolt 1/4-20 x .50" Lg.*	
29	13689		Hood Support Brkt. Ass'y.—R.H.		89	710-0260		Carr. Bolt 5/16-18 x .62" Lg.*	
32	13585		Hinge Rod Support		90	731-0405		Snap Bushing	
33	736-0211		FI-Wash. .250 I.D. x 1.25 O.D.		91	710-0618		FI-Hd. Self-Tap Scr. 1/4-20 x .62" Lg.	
36	710-0294		Hex Scr. 1/4-20 x .38" Lg.*		92	13529		Transmission Cover	
38	13690		Hood Support Brkt. Ass'y.—L.H.		95	710-0601		Hex Wash. Hd. Self-Tap Scr. 5/16-24 x .75" Lg.	
39	13687		Head Lamp Retainer		96	13124		Seat Adjustment Brkt.	
40	722-0136		Foam Strip		97	13536		Dash Panel Mtg. Brkt.	
41	13724		Heat Shield Brkt.		99	726-0168		Retainer	
44	725-0222		Head Lamp						
45	13730		Grille Screen						
47	13506		Grille						
48	13569		Heat Shield						
50	710-0286		Truss Mach. Scr. 1/4-20 x .75" Lg.*						

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(462—Red Flake) When ordering parts if color or finish is important, use color code shown at left. (e.g. Red Flake
(447—Patina Silver) Finish—05546 (462).)

Model 995



STEERING

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PARTS LIST FOR MODEL 995 HYDROSTATIC TRACTOR

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	731-0220		Steering Wheel Cap		32	734-0933		Front Wheel Ass'y. Comp.	
2	712-0158		Hex Cent. L-Nut 5/16-18 Thd.			734-0787		Front Wheel Rim Only	
3	736-0270		Bell-Wash.			734-0947		Front Wheel Tire Only	
4	731-0356		Steering Wheel			734-0255		Air Valve	
5	750-0362		Steering Tube—Outer		33	731-0374		Flange Brg. 1.00" I.D.	
6	736-0296		Double "D" Fl-Wash.		34	736-0259		Fl-Wash. 1.00" I.D. x 1.62" O.D.	
7	736-0174		Wave Wash. .660 I.D. x .88 O.D.		35	737-0146		Grease Fitting	
8	741-0138		Ball Brg. .63 I.D. x 1.38 O.D.		36	712-0798		Hex Nut 3/8-16 Thd.*	
9	13515		Steering Column Ass'y.		37	736-0169		L-Wash. 3/8" Scr.*	
10	13586		Dash Panel Base Plate Ass'y.		38	731-0349		Dust Cover	
11	710-0623		Hex Self-Tap Scr. 3/8-16 x .75" Lg.		39	—		See Ref. No. 16	
12	710-0344		Hex Scr. 3/8-16 x 1.50" Lg.*		40	710-0937		Hex Scr. 3/8-16 x 2.50" Lg.*	
13	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*		41	741-0199		Flange Brg. w/Flats .753 I.D.	
14	710-0502		Hex Wash. S.F. Tap Scr. 3/8-16 x 1.25" Lg.		42	750-0333		Steering Gear Shaft Spacer	
15	13547		Dust Shield		43	13132		Steering Arm	
16	13032		Front Pivot Brkt. Ass'y.		44	748-0238		Bevel Gear	
17	736-0169		L-Wash. 3/8" Scr.*		45	738-0342		Steering Gear Shaft	
18	712-0798		Hex Nut 3/8-16 Thd.*		46	710-0344		Hex Scr. 3/8-16 x 1.50" Lg.*	
19	13008		Pivot Bar Ass'y.		47	736-0169		L-Wash. 3/8" Scr.*	
20	736-0219		Bell-Wash. 3/8" Scr.*		48	736-0133		Fl-Wash. .406 I.D. x 1.25" O.D.	
21	712-0375		Hex Cent. L-Nut 3/8-16 Thd.*		49	736-0169		L-Wash. 3/8" Scr.*	
22	723-0179		Drag Link End		50	710-0216		Hex Scr. 3/8-16 x .75" Lg.*	
23	13001		Axle Ass'y.—L.H.		51	710-0670		Nylon Hex Scr. 3/8-16 x 1.25" Lg.	
24	747-0294		Drag Link		52	738-0408		Steering Shaft	
25	712-0922		Hex Nut 1/2-20 Thd.		53	712-0342		Hex Jam Nut 3/8-16 Thd.	
26	736-0921		L-Wash. 1/2" Scr.*		54	736-0219		Bell-Wash. .400 I.D. x 1.13 O.D.	
27	747-0279		Tie Rod		55	712-0239		Hex Ins. L-Nut 1/2-20 Thd.	
28	13002		Axle Ass'y.—R.H.		56	748-0227		Hex Flange Brg. .630 I.D.	
29	731-0349		Dust Cover		57	748-0237		Pinion Gear	
30	714-0142		Cotter Pin 3/16" Dia. x 1.50" Lg.*		58	736-0264		Fl-Wash. 3/8" Dia.	
31	736-0259		Fl-Wash. 1.00" I.D. x 1.62" O.D.		59	712-0237		Hex Cent. L-Nut 5/16-24 Thd.	
					60	13539		Spacer	

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(462—Red Flake) When ordering parts if color or finish is important, use color code shown at left. (e.g. Red Flake Finish—05546 (462).)

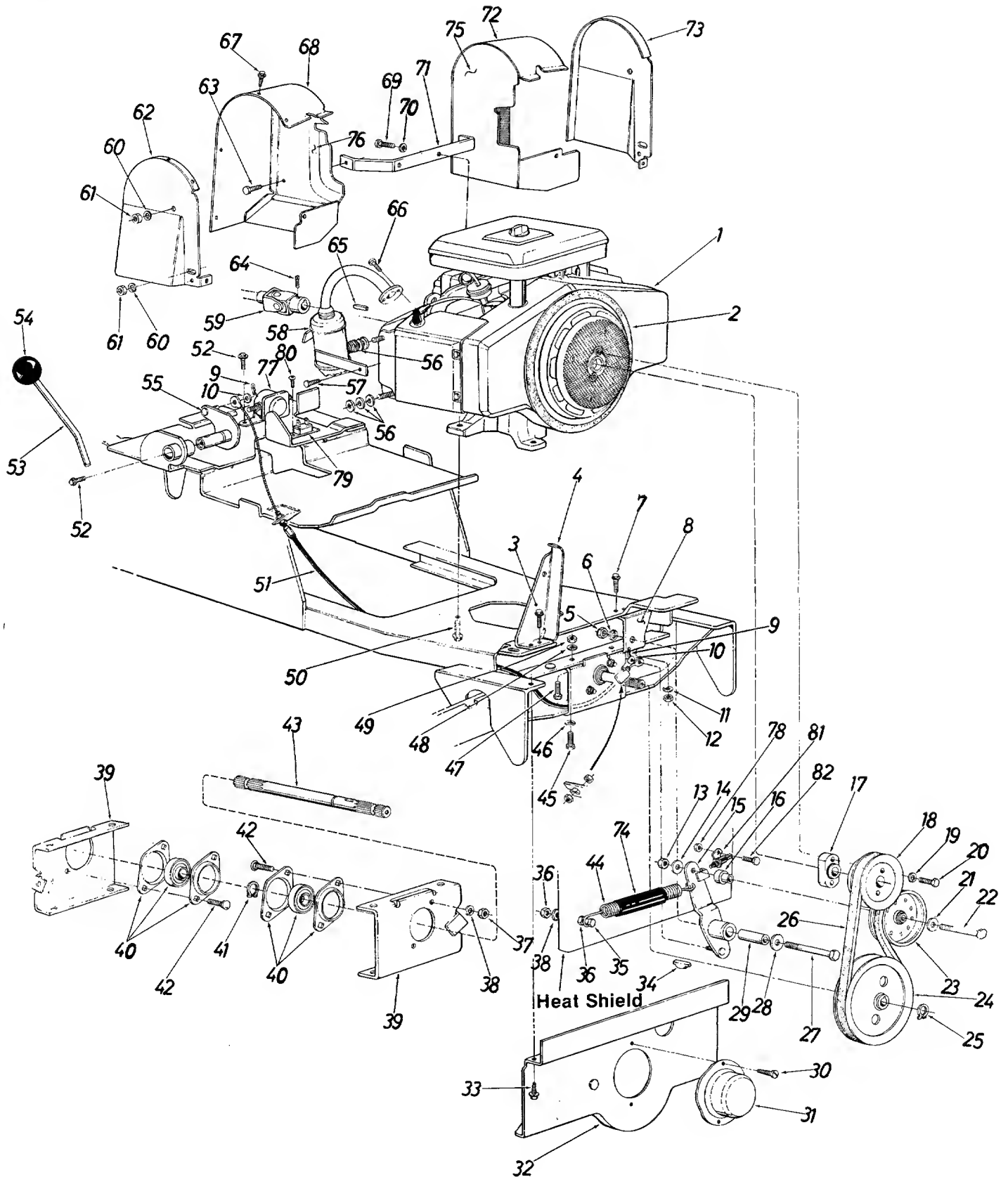
The engine is not under warranty by the mower manufacturer. If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines—Gasoline."



NOTE

This instruction manual covers various models and all specifications shown do not necessarily apply to your model. Specifications subject to change without notice or obligation.

Model 995



P.T.O. SYSTEM

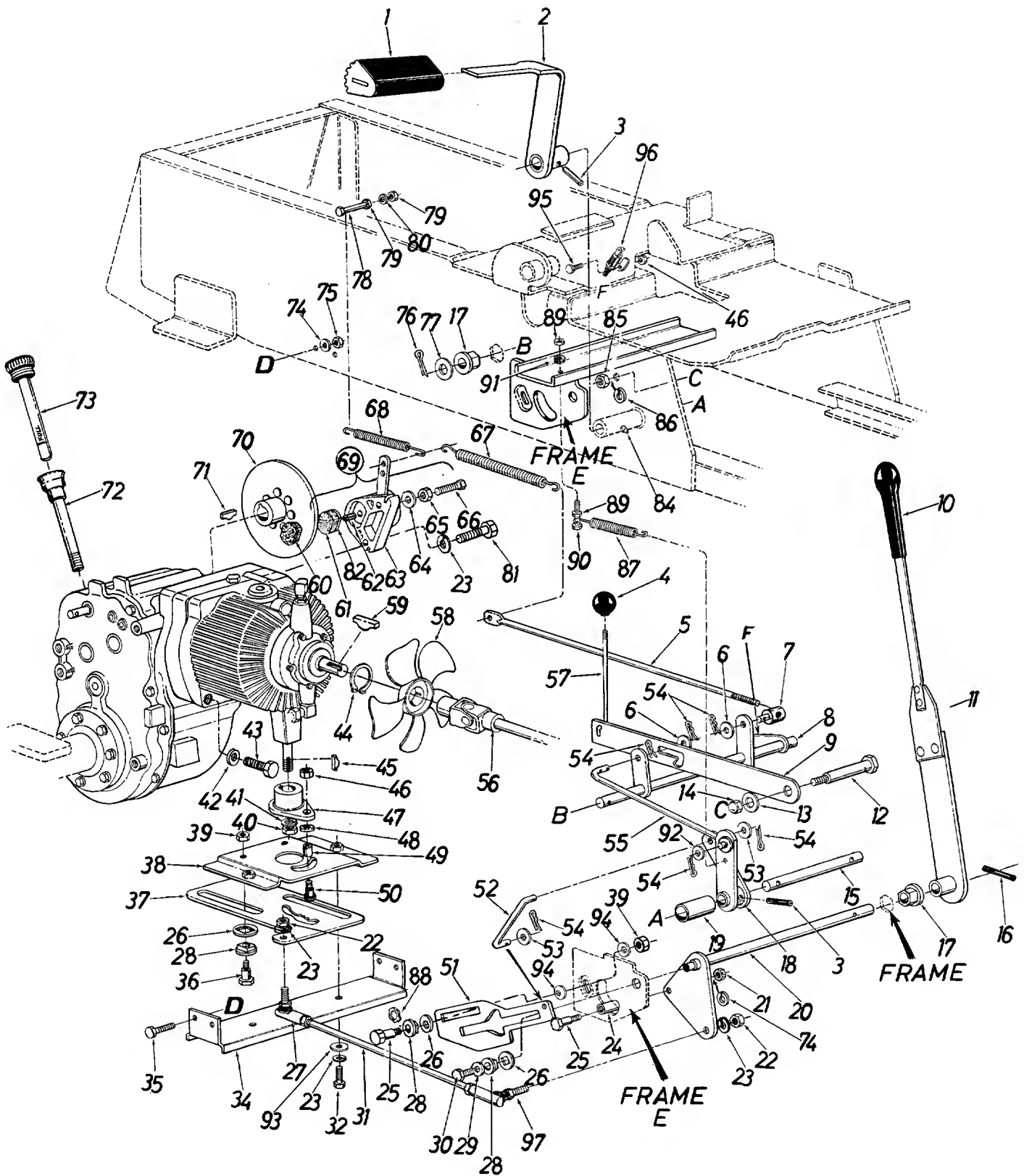
Model 995

PARTS LIST FOR MODEL 995 HYDROSTATIC TRACTOR

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	—		Engine		45	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*	
2	722-0148		Mylar Foam Strip		46	736-0169		L-Wash. 3/8" Scr.*	
3	710-0642		Hex Wash. Hd. Self-Tap Scr. 1/4-20 x .75" Lg.		47	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*	
4	13590		Belt Guard		48	736-0169		L-Wash. 3/8" Scr.*	
5	712-0798		Hex Nut 3/8-16 Thd.*		49	712-0798		Hex Nut 3/8-16 Thd.*	
6	736-0169		L-Wash. 3/8" Scr.*		50	710-0502		Hex Wash. Hd. Self-Tap Scr. 3/8-16 x 1.25" Lg.	
7	710-0601		Hex Wash. Hd. Self-Tap Scr. 5/16-18 x .75" Lg.		51	746-0341		PTO Control Cable	
8	13554		PTO Support Brkt.		52	710-0599		Hex Wash. Hd. Self-Tap Scr. 1/4-20 x .50"	
9	714-0101		Hairpin Cotter 1/2" Dia.		53	747-0211		PTO Handle	
10	736-0133		FI-Wash. .38" I.D. x 1.25 O.D. x .10 Thk.		54	720-0175		Ball Knob	
11	736-0169		L-Wash. 3/8" Scr.*		55	13587		PTO Actuator Lever Ass'y.	
12	712-0798		Hex Nut 3/8-16 Thd.*		56	736-0288		FI-Wash. .312" I.D. x 1.620" O.D. x .060	
13	712-0798		Hex Nut 3/8-16 Thd.*		57	710-0599		Hex Wash. Hd. Self-Tap Scr. 1/4-20 x .50" Lg.	
14	736-0133		FI-Wash. .38 I.D. x 1.25" O.D. x .10 Thk.		58	751-0242		Muffler Ass'y. Comp.— R.H.	
15	13550		PTO Idler Ass'y.		59	717-0402		Universal Joint Ass'y. Comp.	
16	711-0598		Idler Adapter		60	736-0264		FI-Wash. .312" I.D. x .630" O.D. x .063	
17	748-0271		Pulley Spacer		61	712-0267		Hex Nut 5/16-18 Thd.*	
18	756-0312		1/2" V-Pulley 4.75" O.D. (Engine)		62	13722		Shroud Outer—R.H.	
19	736-0217		L-Wash. 3/8" Scr. H.D.		63	710-0599		Hex Wash. Hd. Self-Tap Scr. 1/4-20 x .50" Lg.	
20	710-0427		Hex Scr. 3/8-16 x 2.00" Lg.*		64	710-0666		Sq. Hd. Set Scr. 5/16-18 x .38" Lg. (Cup Point)	
21	736-0133		FI-Wash. .38" I.D. x 1.25 O.D x .010 Thk.		65	714-0114		Sq. Key 1/4" x 2.00" Lg.	
22	710-0937		Hex Scr. 3/8-16 x 2.50" Lg.*		66	710-0751		Hex Wash. Hd. Scr. 1/4-20 x 5/8" Lg.— Grade 5	
23	711-0306		Flat Idler Pulley		67	710-0224		Hex "AB" Tap Scr. #10 x .50" Lg.	
24	756-0309		1/2" V-Pulley 7.00" O.D. (PTO)		68	13720		Shroud Cover—R.H.	
25	716-0127		Snap Ring		69	710-0157		Hex Scr. 5/16-24 x .75" Lg.*	
26	754-0234		"V"-Belt 1/2" x 41" Lg. (PTO)		70	736-0119		L-Wash. 5/16" Scr.	
27	710-0937		Hex Scr. 3/8-16 x 2.50" Lg.*		71	13723		Shroud Support Brkt.	
28	736-0133		FI-Wash. .38" I.D. x 1.25" O.D. x .010		72	13719		Shroud Cover—L.H.	
29	750-0374		Spacer .375" I.D. x .62" O.D. x 1.830 Lg.		73	13721		Shroud Outer—L.H.	
30	710-0224		Hex "B" Tap Scr. #10 x .50" Lg.		74	731-0466		Spring Cover Tubing (PTO Clutch)	
31	13546		PTO Cup		75	13714		Shroud Inner Ass'y.—L.H.	
32	13542		PTO Belt Guard Ass'y.		76	13717		Shroud Inner Ass'y.—R.H.	
33	710-0601		Hex Wash. Self-Tap Scr. 5/16-18 x .75		77	725-0530		Solenoid	
34	714-0154		#91 Hi-Pro Key		78	710-0289		Hex Scr. 1/4-20 x 1/2" Lg.	
35	710-0528		Hex Scr. 5/16-18 x 1.25" Lg.		79	725-0459		Circuit Breaker	
36	712-0267		Hex Nut 5/16-18 Thd.*		80	710-0351		Truss Mach. Scr. #10 x .50" Lg.	
37	712-0267		Hex Nut 5/16-18 Thd.*		81	725-0842		Safety Switch (PTO)	
38	736-0119		L-Wash. 5/16" Scr.*		82	736-0329		L-Wash. 1/4" Scr.*	
39	13553		PTO Brg. Retainer Brkt.		83	751-0241		Muffler Ass'y. Comp.—L.H. (Not Shown)	
40	741-0242		1.00" Dia. Brg. w/Flangette						
41	716-0127		Snap Ring						
42	710-0451		Carr. Bolt 5/16-18 x .75" Lg.*						
43	738-0395		Spline Shaft						
44	732-0262		Extension Spring (PTO Clutch)						

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

Model 995



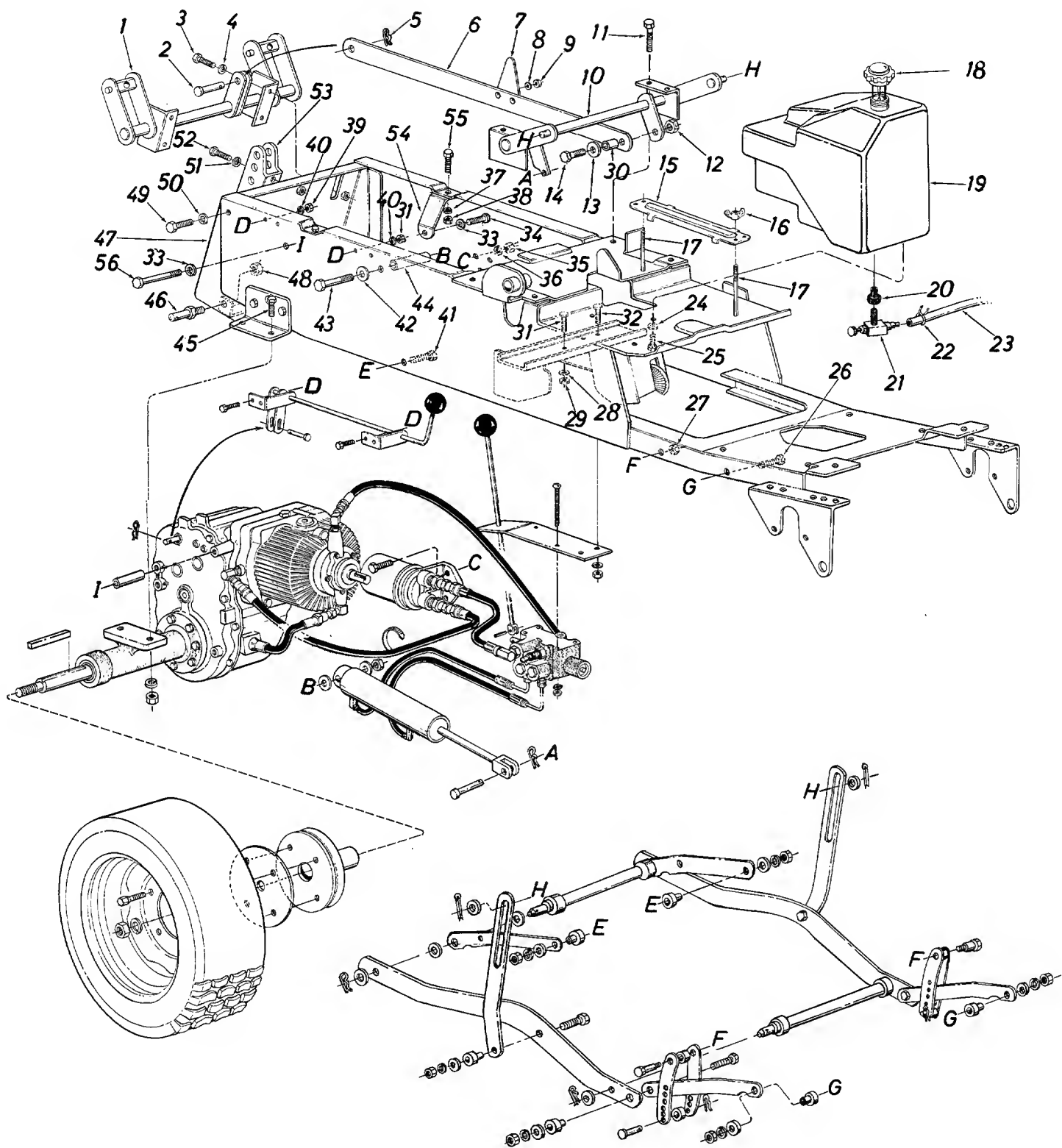
CONTROL LINKAGE

Model 995

PARTS LIST FOR MODEL 995 HYDROSTATIC TRACTOR

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	735-0189		Foot Pad		49	741-0154		Needle Brg. .31" I.D. x .50" O.D. x .437" Lg.	
2	13080		Foot Pedal Brkt. Ass'y.—R.H.		50	710-0491		Shld. Scr. .31 Dia. x .500 (Socket Head)	
3	715-0114		Spring Pin Spiral 1/4" Dia. x 1.50" Lg.*		51	13556		Neutral Control Slide	
4	720-0166		Ball Knob—Brake		52	747-0287		Neutral Control Rod	
5	747-0283		Brake Rod		53	736-0264		FI-Wash. .312 I.D. x .630 O.D. x .063	
6	736-0101		FI-Wash. .375" I.D. x 1.00" O.D. x .030		54	714-0104		Hairpin Cotter	
7	711-0198		Ferrule		55	13702		Brake Link Rod Ass'y.	
8	13548		Brake Transfer Shaft Ass'y.		56	717-0402		Universal Joint Ass'y. Comp.	
9	13523		Parking Brake Cam		57	747-0282		Parking Brake Link	
10	720-0143		Grip		58	731-0317		Fan Ass'y.	
11	13787		Control Arm Ass'y. Comp.		59	714-0388		#61 Hi-Pro Key 3/16 x 5/8" Dia.	
12	738-0186		Shld. Scr. .62 Dia. x 2.75" Lg.		60	HU-24-13772		Lining—Brake	
13	736-0187		FI-Wash. .460 I.D. x 1.24 O.D. x .06		61	HU-24-13772		Lining—Brake	
14	712-0222		Push Speed Nut for .625 Dia. Shaft		62	HU-39-13774		Actuator Pin	
15	738-0402		Brake Pivot Shaft		63	HU-39-14232		Housing with Lever and Pin	
16	715-0114		Spring Pin Spiral 1/4" Dia. x 1.50" Lg.*		64	HU-20-9764		Washer	
17	741-0225		Hex Flange Brg. Plastic .62 I.D.		65	HU-37-13818		Nut	
18	13505		Brake Hub Ass'y.		66	HU-39-13775		Adjustment Pin	
19	750-0181		Spacer		67	732-0260		Extension Spring .59 O.D. x 6.5" Lg.	
20	13565		Control Handle Ass'y.		68	732-0157		Extension Spring (Brake Return)	
21	712-0158		Hex Cent. L-Nut 5/16-18 Thd.		69	761-0170		Disc Brake Ass'y. Comp.	
22	712-0241		Hex Nut 3/8-24 Thd.*		70	761-0142		Brake Disc Ass'y.	
23	736-0169		L-Wash. 3/8" Scr.*		71	714-0137		Hi-Pro Key 3/16 x 3/4" Dia.	
24	748-0270		Spacer		72	751-0239		Dipstick Tube Ass'y.	
25	738-0138		Shoulder Bolt		73	751-0240		Dipstick Ass'y.	
26	736-0303		FI-Wash. .63 Sq. Hole x 1.25" O.D.		74	736-0119		L-Wash. 5/16" Scr.	
27	723-0351		Ball Joint Ass'y. 3/8-24 Thd.—L.H.		75	712-0267		Hex Nut 5/16-18 Thd.*	
28	748-0180		Pivot Slide		76	714-0115		Cotter Pin 1/8" Dia. x 1.00" Lg.*	
29	736-0159		FI-Wash. .312 I.D. x .88 O.D.		77	736-0162		FI-Wash. .635" I.D. x 1.00 O.D. x .120 Thk.	
30	710-0643		Hex Ins. Scr. 5/16-18 x 1.00" Lg.		78	710-0102		Hex Scr. 1/4-20 x 2.50" Lg.*	
31	747-0365		Tie Rod		79	712-0287		Hex Nut 1/4-20 Thd.*	
32	710-0216		Hex Scr. 3/8-16 x .75" Lg.*		80	736-0329		L-Wash. 1/4" Scr.*	
34	13562		Support Channel		81	710-0342		Hex Scr. 3/8-16 x 1.25" Lg.*	
35	710-0118		Hex Scr. 5/16-18 x .75" Lg.*		82	HU-25-13808		Backing Plate	
36	738-0141		Shld. Scr. .437" Dia. x .350		84	737-0146		Grease Fitting	
37	13555		Cam Plate		85	712-0240		Hex Nut 7/16-20 Thd.*	
38	13557		Slide Mtg. Plate Ass'y.		86	736-0171		L-Wash. 7/16" Scr.*	
39	712-0158		Hex Cent. L-Nut 5/16-18 Thd.		87	732-0121		Extension Spring	
40	712-0206		Hex Nut 1/2-13 Thd.*		88	736-0141		Wave Wash.	
41	736-0921		L-Wash. 1/2" Scr.*		89	712-0287		Hex Nut 1/4-20 Thd.*	
42	736-0300		FI-Wash. .385 I.D. x .87 O.D. x .060		90	710-0106		Hex Scr. 1/4-20 x 1.25" Lg.*	
43	710-0492		Socket Hd. Scr. 3/8-16 x 2.75" Lg.		91	736-0329		L-Wash. 1/4" Scr.*	
44	716-0123		Snap Ring		92	736-0101		FI-Wash.	
45	714-0131		#5 Hi-Pro Key 1/8" x 5/8" Dia.		93	736-0427		FI-Wash. .38 I.D. x 1.25 O.D.	
46	712-0107		Hex Cent. L-Nut 1/4-20 Thd.		94	736-0242		Bell-Wash.	
47	13559		Pintle Plate Ass'y.		95	710-0289		Hex Scr. 1/4-20 x 1/2" Lg.	
48	736-0142		FI-Wash. .281 I.D. x .50 O.D. x .063		96	725-0577		Safety Switch (Clutch)	
					97	723-0156		Ball Joint Ass'y. 3/8-24 Thd.—R.H.	

Model 995



FRAME

Model 995

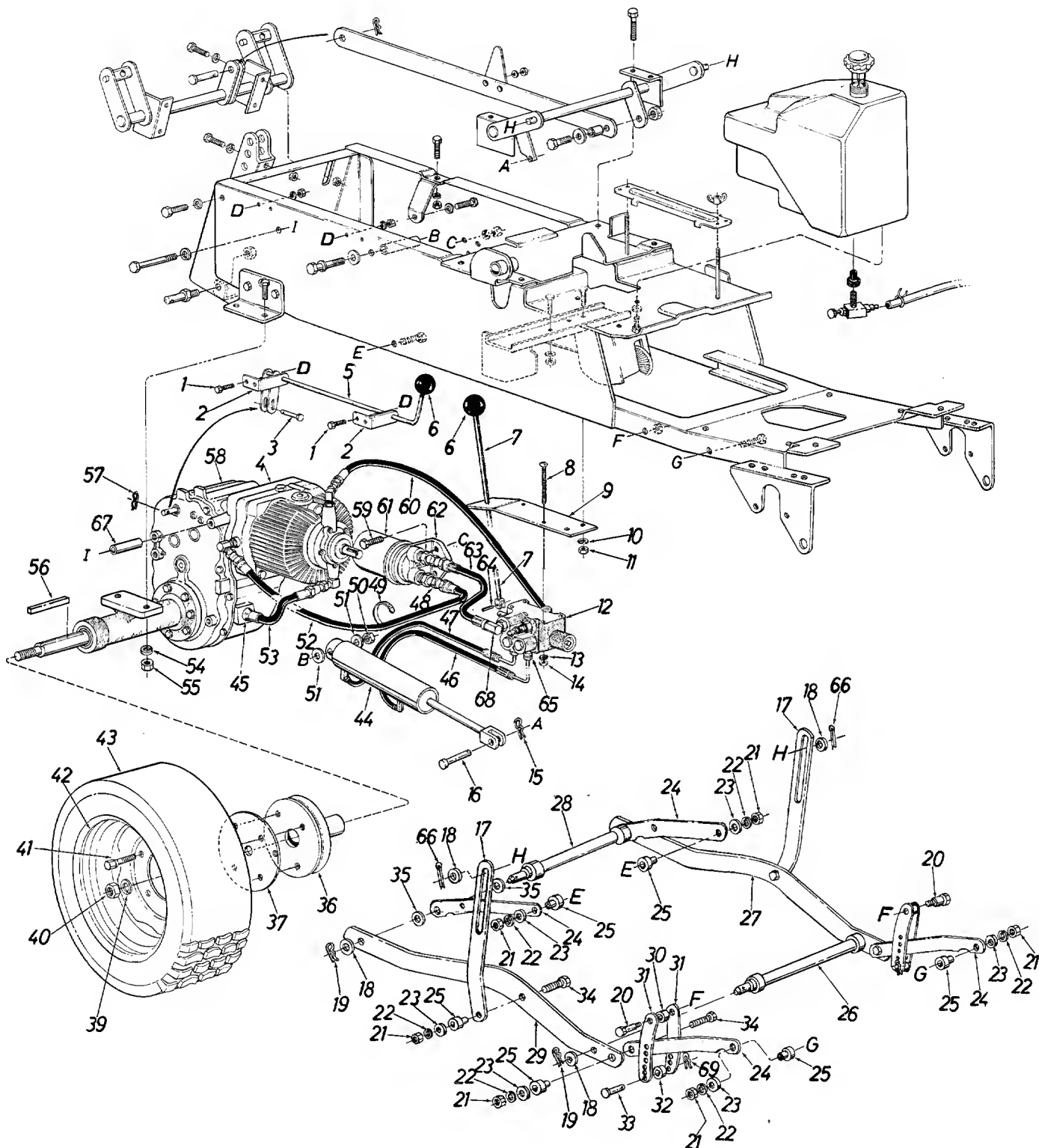
PARTS LIST FOR MODEL 995 HYDROSTATIC TRACTOR

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	13135		Rear Lift Shaft Ass'y.		29	712-0798		Hex Nut 3/8-16 Thd.*	
2	711-0654		Clevis Pin		30	750-0336		Push Bar Sleeve	
3	710-0514		Hex Scr. 3/8-16 x 1.00" Lg. Grade 5		31	710-0253		Hex Scr. 3/8-16 x 1.00 Lg. Grade 5	
4	736-0217		L-Wash. 3/8" Scr. H.D.		32	710-0118		Hex Scr. 5/16-18 x .75" Lg.*	
5	714-0470		Cotter Pin 1/8" Dia. x 1.25" Lg.*		33	736-0921		L-Wash. 1/2" Scr.*	
6	13709		Push Bar Ass'y.		34	710-0474		Hex Scr. 1/2-13 x 1.25" Lg.*	
7	13535		Position Indicator		35	712-0267		Hex Nut 5/16-18 Thd.*	
8	736-0119		L-Wash. 5/16" Scr.*		36	736-0119		L-Wash. 5/16" Scr.*	
9	712-0267		Hex Nut 5/16-18 Thd.*		37	736-0217		L-Wash. 3/8" Scr. H.D.	
10	13501		Lift Shaft Ass'y.		38	712-0798		Hex Nut 3/8-16 Thd.*	
11	710-0649		Hex Self-Tap Scr. 3/8-24 x .88" Lg.		39	712-0287		Hex Nut 1/4-20 Thd.*	
12	712-0239		Hex Cent. L-Nut 1/2-20 Thd.		40	736-0329		L-Wash. 1/4" Scr.*	
13	736-0179		FI-Wash.		41	710-0459		Hex Scr. 3/8-24 x 1.50" Lg.*	
14	710-0504		Hex Scr. 1/2-20 x 1.25" Lg.*		42	736-0179		FI-Wash. .50" I.D. x 1.25 O.D.	
15	12614		Battery Hold Down Brkt.		43	710-0515		Hex Scr. 1/2-20 x 3 1/2" Lg. Grade 5	
16	712-0113		Wing Nut 1/4-20 Thd.		44	750-0443		Spacer for Cylinder	
17	711-0222		Battery Hold Down Rods		45	710-0347		Hex Scr. 3/8-16 x 1.75" Lg.*	
18	751-0226		Gas Tank Cap		46	711-0497		Link Clevis Pin	
19	751-0243		Gas Tank Ass'y.		47	13196		Hitch Plate Ass'y.	
20	735-0149		Bushing		48	712-0923		Hex Cent. L-Nut 5/8-18 Thd.	
21	751-0171		Fuel Shut-Off Valve with Screen		49	710-0216		Hex Scr. 3/8-16 x .75" Lg. Grade 5	
22	726-0184		Gas Line Clamp 7/16"		50	736-0169		L-Wash. 3/8" Scr.	
23	731-0470		Gas Line 30" Lg.		51	736-0217		L-Wash. 3/8" Scr. H.D.	
24	736-0270		Bell-Wash.		52	710-0216		Hex Scr. 3/8-16 x .75" Lg. Grade 5	
25	710-0289		Hex Scr. 1/4-20 x .38" Lg.*		53	13026		Hitch Brkt.	
26	710-0459		Hex Scr. 3/8-24 x 1.50" Lg.*		54	13530		Transmission Brace	
27	712-0798		Hex Nut 3/8-16 Thd.*		55	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*	
28	736-0169		L-Wash. 3/8" Scr.*		56	710-0490		Hex Scr. 1/2-13 x 2.75" Lg.*	

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(462—Red Flake) When ordering parts if color or finish is important, use color code shown at left. (e.g. Red Flake Finish—05546 (462).)

Model 995



HYDRAULIC SYSTEM

Model 995

PARTS LIST FOR MODEL 995 HYDROSTATIC TRACTOR

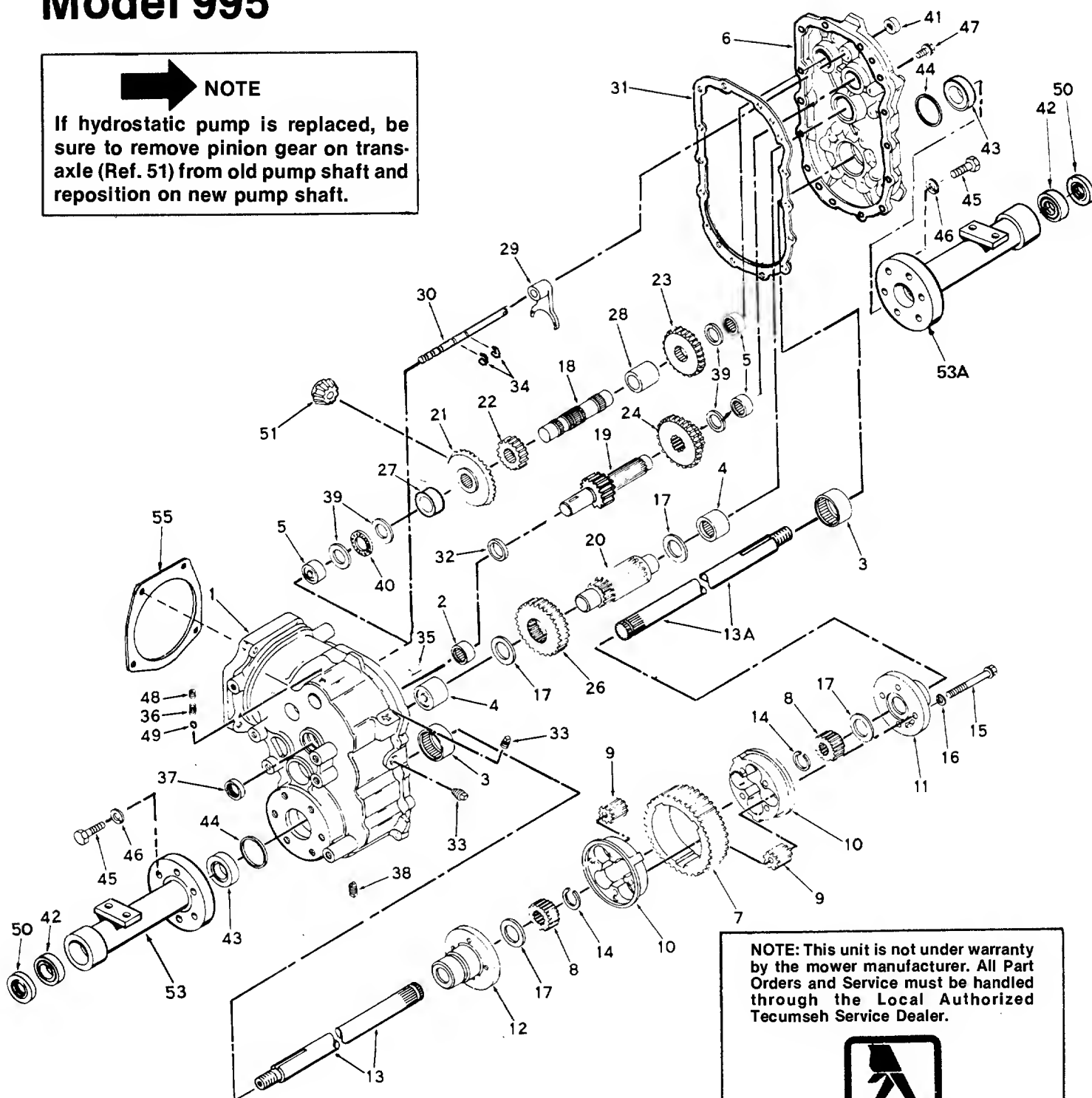
REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	710-0237		Hex Scr. 1/4-20 x .75" Lg.*		40	712-0288		Hex Ins. L-Nut 3/4-16 Thd.	
2	13524		Hi-Lo Speed Control Brkt.		41	710-0470		Wheel Lug Bolt	
3	711-0684		Clevis Pin 1/4" Dia.					1/2-20 x 1.50" Lg.	
4	717-0344		Hydrostatic Pump Comp.	42	734-0935			Rear Wheel Rim Only	
5	13532		Hi-Lo Control Handle Ass'y.	43	734-0934			Rear Wheel Ass'y. Comp.	
6	720-0175		Ball Knob					27 x 9.50	
7	13531		Cylinder Control Handle Ass'y.			734-0397		Tire Only 27 x 9.50	
8	710-0105		Truss Mach. Scr. 1/4-20 x 3.00" Lg.*	44	734-0936			Air Valve	
9	13534		Valve Base Plate	45	727-0159			Hydraulic Cylinder	
10	736-0119		L-Wash. 5/16" Scr.*		727-0220			7/8-14 UNF-2A Thd.	
11	712-0267		Hex Nut 5/16-18 Thd.*	46	727-0219			5/8 Tube Fitting	
12	727-0200		Valve Ass'y. Comp.	47	727-0219			Valve to Cylinder Hose 20" Lg.	
13	736-0329		L-Wash. 1/4" Scr.*					Valve to Cylinder Hose 20" Lg.	
14	712-0287		Hex Nut 1/4-20 Thd.*	48	727-0222			Bushing Reducer 1/2-14 NPTF to 3/8-18 NPTF	
15	714-0101		Hairpin Cotter 1/2" Dia.					Cable Tie	
16	711-0140		Clevis Pin 1/2" Dia.	49	726-0178			Hex Jam Nut 1/2-20 Thd.	
17	13570		Deck Link	50	712-0922			FI-Wash. .50" I.D. x 1.25 O.D.	
18	736-0156		FI-Wash. .62" I.D. x 1.12" O.D.	51	736-0179			Filter Return Hose 24" Lg.	
19	714-0147		Hairpin Cotter	52	727-0217			Pump Tube Ass'y.	
20	738-0148		Shld. Scr. .498 Dia. x .66	53	749-0309			L-Wash. 3/8" Scr.*	
21	712-0241		Hex Nut 3/8-24 Thd.*	54	736-0217			Hex Nut 3/8-16 Thd.*	
22	736-0217		L-Wash. 3/8" Scr. H.D.	55	712-0798			Sq. Key 1/4" x 1/4" x 2.00" Lg.*	
23	736-0258		FI-Wash. .38 I.D. x 1.00" O.D.	56	714-0114			Hairpin Cotter 1/4" Dia.	
24	13151		Lift Arm	57	714-0104			Peerless Transaxle	
25	748-0241		Shoulder Spacer	58	—			(See Breakdown on Page 34)	
26	13729		Cross Shaft Ass'y. Front					Hex Scr. 5/16-18 x 1.25" Lg.*	
27	13139		Lift Arm Link	59	710-0528			Pump to Valve Hose	
28	13728		Cross Shaft Ass'y. Rear					Fram Filter Ass'y. PH-16	
29	13139		Lift Arm Link	60	727-0167			Filter Base	
30	711-0146		Collar .50" I.D. x 1.00" O.D. x .320 Thk.	61	727-0162			Valve to Filter Hose 8.38" Lg.	
31	13545		Index Brkt.	62	727-0163			Spring Pin Spiral 1/8" Dia. x .81" Lg.	
32	711-0242		Spacer .38" I.D. x 1.00" O.D. x .320	63	727-0218			Flare Adapter	
33	711-0173		Clevis Pin 3/8" Dia.	64	715-0129			Cotter Pin 1/8" Dia. x 1.00" Lg.*	
34	710-0459		Hex Scr. 3/8-24 x 1.50" Lg. Grade 5	65	727-0187			Spacer	
35	736-0167		FI-Wash. .62" I.D. x 1.25" O.D. x .020	66	714-0115			Adapter 9/16-18 to 9/16-18	
36	13572		Rear Wheel Hub Ass'y.	67	750-0417			Hairpin Cotter	
37	13574		Hub Plate	68	727-0175				
39	1541-006		L-Wash. 3/4" Scr.*	69	714-0145				

Model 995



NOTE

If hydrostatic pump is replaced, be sure to remove pinion gear on trans-axle (Ref. 51) from old pump shaft and reposition on new pump shaft.



NOTE: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.



yellow pages

PEERLESS MODEL 2526

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lauson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

Model 995

PARTS LIST FOR TRANSAXLE MODEL 2526

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	PE-770060A	Case Ass'y., Transaxle (Incl. Nos. 2 thru 5)	27	PE-786055	Spacer (55/64" Long)
2	PE-780097	Bearing, Needle	28	PE-786056	Spacer (1 19/32" Long)
3	PE-780098	Bearing, Needle	29	PE-784195	Fork, Shift
4	PE-780099	Bearing, Needle	30	PE-784196	Rod, Shift
5	PE-780100	Bearing, Needle	31	PE-788047	Gasket, Case and Cover
6	PE-772065	Cover Ass'y., Transaxle (Incl. 3, 4 & 5)	32	PE-780005	Spacer
7	PE-778084	Gear, Ring	33	PE-792010	Plug, Pipe
8	PE-778085	Gear, Side	34	PE-792064	Ring, Snap
9	PE-778086	Gear, Pinion	35	PE-786026	Pin, Dowel
10	PE-786054	Core, Body	36	PE-792003	Spring
11	PE-774199	Carrier, Differential	37	PE-788008	Seal, Oil
12	PE-774200	Carrier, Differential	38	PE-792019	Plug, Magnetic Drain
13	PE-774390	Axle, (18 17/64" Long)	39	PE-780045	Washer, Thrust
13A	PE-774389	Axle, (15 29/64" Long)	40	PE-780012	Bearing, Thrust
14	PE-792062	Ring, Snap	41	PE-788034	Seal, Oil
15	PE-792063	Screw, Hex Hd. Mach., 3/8-16 x 3-3/8	42	PE-780103	Bearing, Ball
16	PE-792011	Lock Washer, 3/8"	43	PE-780104	Bearing, Thrust
17	PE-780101	Washer, Thrust	44	PE-788048	Seal, Square Cut
18	PE-776118	Shaft, Counter	45	PE-792065	Screw, Hex Hd. Mach., 1/2-13 x 1 1/2
19	PE-776122	Shaft, Brake	46	PE-792066	Lock Washer, 1/2"
20	PE-776120	Pinion, Output	47	PE-792067	Screw, Hex Hd. Thd. Forming, 5/16-18 x 1
21	PE-778087	Gear, Bevel (30 Teeth)	48	PE-792068	Screw, Set 1/4-20 x 1/2
22	PE-778088	Gear, Spur (16 Teeth)	49	PE-792004	Ball, Steel
23	PE-778096	Gear, Spur (23 Teeth)	50	PE-788049	Seal, Oil
24	PE-778097	Gear, Cluster (20 and 27 Teeth)	51	PE-778093A	Pinion, Bevel
26	PE-778098	Gear, Output (37 Teeth)	53	PE-782061	Housing, Axle (9 1/4" Long)
			53A	PE-782060	Housing, Axle (7 5/16" Long)
			55	PE-788050	Gasket

Note: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.



yellow pages

PEERLESS MODEL 2526

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lauson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

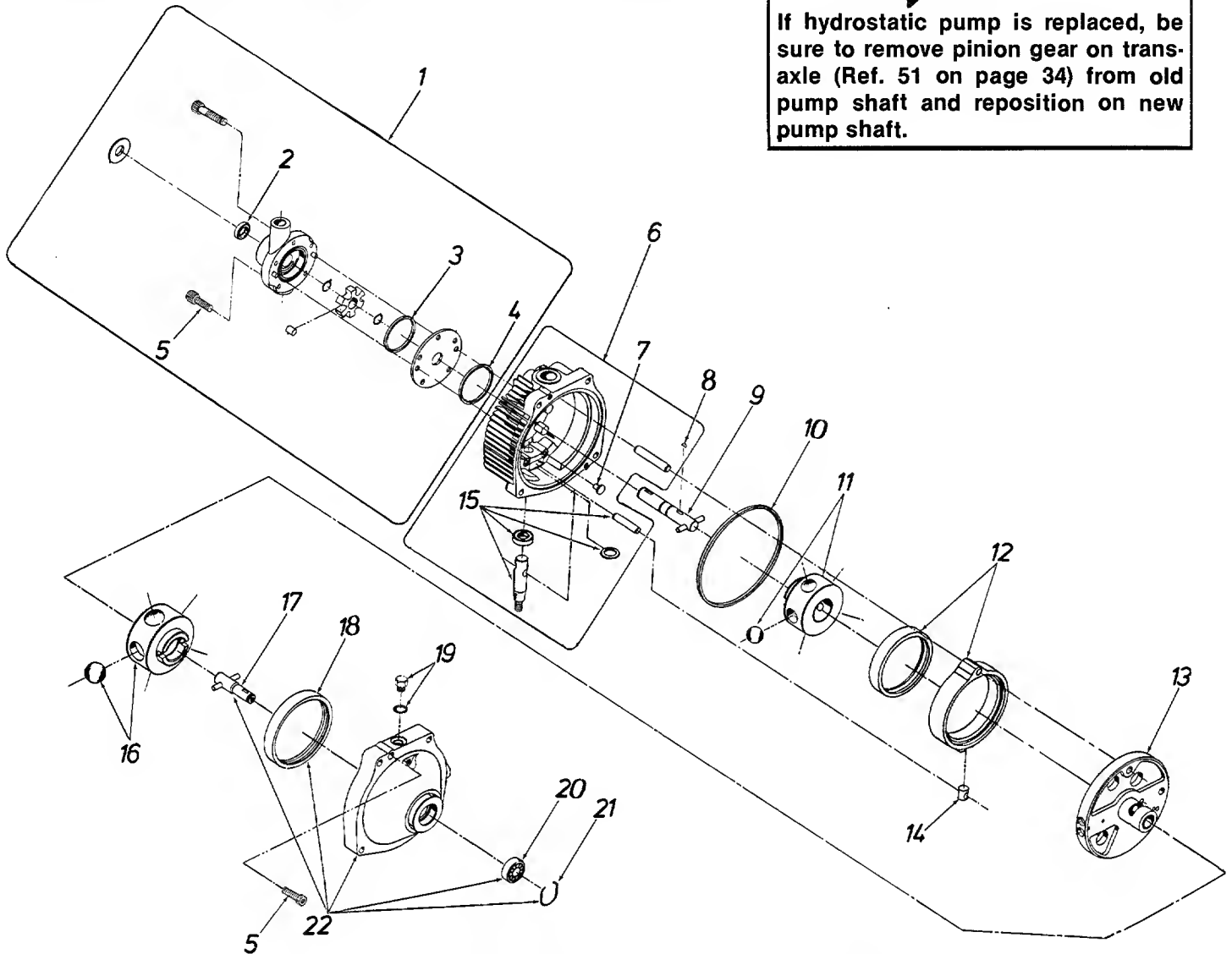
Model 995

M11 HYDROSTATIC TRANSMISSION



NOTE

If hydrostatic pump is replaced, be sure to remove pinion gear on trans-axle (Ref. 51 on page 34) from old pump shaft and reposition on new pump shaft.

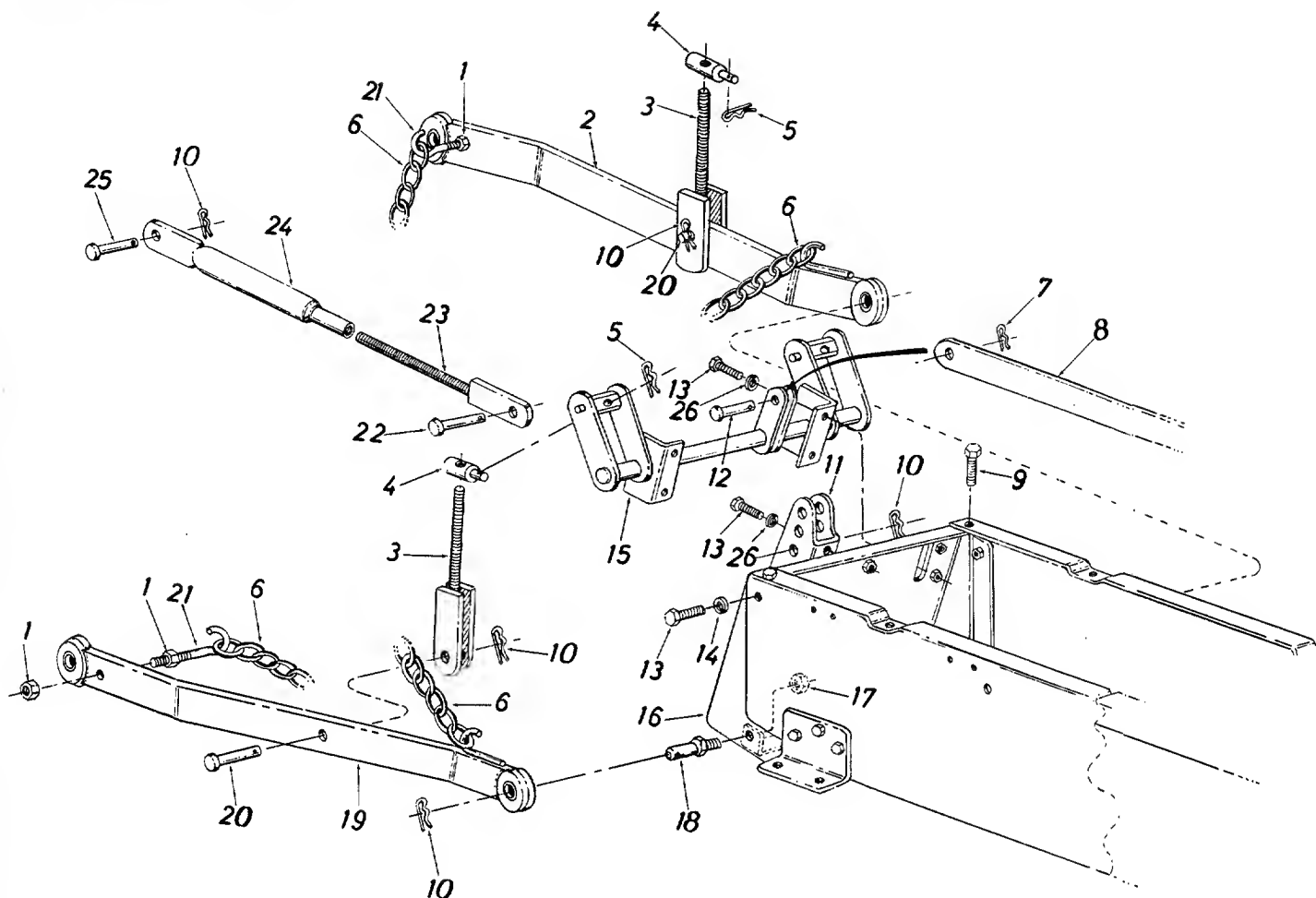


PARTS LIST FOR M11 HYDROSTATIC TRANSMISSION ET001100-006 (717-0344)

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	ET-990045-000	Charge Pump Kit	12	ET-101904-000	Cam Ring Subassembly
2	ET-092999-000	Oil Seal	13	ET-101571-000	Pintle Subassembly
3	ET-008771-036	Square Cut Seal Ring .036	14	ET-097841-000	Cam Ring Insert
4	ET-008771-038	Square Cut Seal Ring .038	15	ET-990136-000	Control Shaft Kit
5	ET-095912-125	Socket Head Cap Screw 5/16-18 x 1.25" Long	16	ET-101853-000	Motor Rotor—Ball Sub-assembly
6	ET-990114-000	Cover Subassembly	17	ET-024608-000	Output Shaft Subassembly
7	ET-101597-000	Button	18	ET-040525-000	Motor Race
8	ET-090880-000	Drive Pin	19	ET-025090-006	"O"-Ring Plug Subassembly
9	ET-024129-000	Input Shaft Subassembly	20	ET-097879-000	Ball Bearing (Output)
10	ET-008771-166	Square Cut Seal Ring .166	21	ET-091231-000	Retaining Ring
11	ET-101470-000	Pump Rotor—Ball Sub-assembly	22	ET-102583-000	Body Subassembly

NOTE: A complete disassembly procedure and repair manual for the hydrostatic pump is available from the factory. Write for manual covering Model 717-0344, Form No. 770-5390.

Model 995

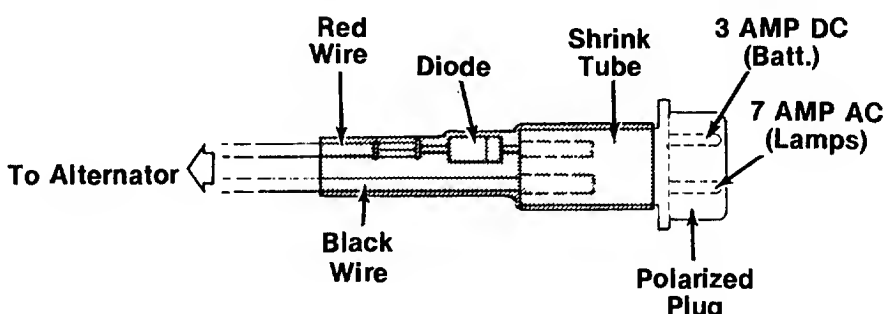


THREE POINT HITCH

PARTS LIST FOR MODEL 995 HYDROSTATIC TRACTOR

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	712-0290✓		Hex Cent. L-Nut 7/16-14 Thd.		14	736-0217		L-Wash. 3/8" Scr. H.D.*	
2	13130✓		Draft Bar Ass'y.—L.H.		15	13135✓		Rear Lift Shaft Ass'y.	
3	13138✓		Clevis Screw Ass'y.		16	13196		Hitch Plate Ass'y.	
4	711-0649✓		Clevis Pin		17	712-0923		Hex Cent. L-Nut 5/8-18 Thd.	
5	714-0147✓		Hitch Pin Clip		18	711-0497✓		Link Clevis Pin	
6	713-0148✓		Chain 20 Links		19	13129✓		Draft Bar Ass'y.—R.H.	
7	714-0470✓		Cotter Pin 1/8" Dia. x 1.25" Lg.*		20	711-0225✓		Clevis Pin .63 Dia. x 1.66" Lg.	
8	13709		Push Bar Ass'y.		21	711-0639✓		Hitch Chain Hook	
9	710-0216 -		Hex Scr. 3/8-16 x .75" Lg.*		22	711-0299		Clevis Pin .63 Dia. x 2.4" Lg.	
10	714-0117✓		Hairpin Cotter		23	711-0636✓		Clevis Screw	
11	13026✓		Hitch Brkt.		24	749-0238✓		Clevis Tubing	
12	711-0654✓		Clevis Pin		25	711-0299✓		Clevis Pin .63 Dia. x 2.4" Lg.	
13	710-0216		Hex Scr. 3/8-16 x .75" Lg.*		26	736-0217✓		L-Wash. 3/8" Scr. H.D.	

TROUBLE SHOOTING CHART FOR ELECTRIC START MODELS

TROUBLE	LOOK FOR	REMEDY
Engine will not crank	Battery installed incorrectly	The battery must be installed with the negative, identified at the terminal post by (Neg, N or -), grounded. The positive (Pos, P or +) attaches to the large cable from the solenoid. The small red wire from the fuse holder or circuit breaker is also attached to the positive terminal.
	Blown fuse or circuit breaker	Replace fuse with 7 1/2 amp. fuse 1/4 x 1 1/4" lg. Circuit breaker will reset itself when it cools off. Fuses or circuit breakers seldom open or fail without a reason. The problem must be corrected. Check for loose connections in the fuse holder. Replace fuse holder if necessary. A dead short may be in the cranking or charging circuit where the insulation may have rubbed through and exposed the bare wire. Replace the wire or repair with electrician's tape if the wire strands have not been damaged. Note: Look for a wire pinched between body panels, burned by the exhaust pipe or muffler or rubbed against a moving part.
	Battery is dead or weak	<p>Use a hydrometer to check the condition of the battery. The Specific Gravity (s.g.) should be 1.265 at 80°F. (1.215 s.g. minimum needed for cranking engine). The reason for the battery failing must be determined. (1) Defective battery. Battery will not accept or hold a full charge. (2) Short circuit. Check for grounded wire. (3) Charging system not working, either engine alternator or trickle charger.</p> <p>Trickle Charger. Check with multimeter. Charger 725-0578—input 120 V A.C., no load output 13.5 V D.C., rated load current 1 amp. Charger 725-0507—input 120 V A.C., no load output 17.4 V D.C., rated load current 1/2 amp.</p> <p>Alternator (dual or single circuit) The charging system is an alternator located under the flywheel. It is unregulated and rated 3 amp. at 3600 r.p.m. A diode (rectifier) is located in the output lead just before the wire harness plug on the engine side.</p> <div style="text-align: center;">  </div> <p>The diode changes A.C. to D.C. to charge the battery. A bad diode can either fail to charge the battery or discharge the battery if the alternator is shorted as well as the diode. To test: (1) Disconnect charger lead from the battery (small red wire). (2) Connect 12 V small test lamp between the 3 amp. D.C. charge lead and the positive terminal of the battery. (3) With the engine off, the lamp should not light. If it does, the diode and possibly the alternator should be replaced. (4) Start the engine. The lamp should light. If it does not, the alternator (stator) or lead wire is bad and should be replaced.</p>
Engine cranks but will not start	Mechanical failure. (Wires and switches)	The interlock system includes two mechanical activated switches which are wired in series in the circuit used to energize the starter solenoid. While testing the interlock system, you will make the mower temporarily unsafe by permitting the engine to be started with the blade and clutch engaged. WARNING: While testing, disengage the clutch, shut off the blade control, set the parking brake and place the gear shift lever in neutral. Attach a wire (minimum 18 gauge) to the positive terminal of the battery and touch the other end to the small terminal on the solenoid. If the engine does not crank: (1) There is a loose connection or poor ground. (2) The solenoid may be bad. The solenoid can be checked by using a heavy wire (#8 gauge minimum) and jumping between the two large terminals. If the engine cranks, the solenoid is bad. (3) If the engine does not crank when you jump the solenoid, have the starter motor tested by an authorized engine dealer. If the engine does crank, the problem is with one of the safety switches, ignition switch or the wire between the fuse holder (or circuit breaker) and the small terminal on the solenoid. Note: Look for a poor connection at the switches or a defective switch. Replace if necessary.
	Throttle or choke not in starting position	Check owner's guide for correct position for throttle control and choke (if separate control) for starting.

TROUBLE SHOOTING CHART FOR ELECTRIC START MODELS

TROUBLE	LOOK FOR	REMEDY
	No spark to spark plug	Spark plug lead disconnected. Connect lead. Hold spark plug lead away from engine block about 1/8". Crank engine. There should be a spark. If not, have engine repaired at authorized engine service dealer. Faulty spark plug. To test, remove spark plug. Attach spark plug lead to spark plug. Ground the spark plug body against the engine block. Crank the engine. The spark plug should fire at the electrode. Replace if it does not.
	No fuel to the carburetor	Gasoline tank empty. Fill. Fuel valve shut off. Open valve. Valve is located either at the bottom of the fuel tank or on the carburetor. Fuel line plugged. Remove and clean.
	Air filter dirty	If the air cleaner is dirty, the engine may not start. Clean or replace as recommended by the engine manufacturer.
Engine smokes	Engine loses crankcase vacuum	Dipstick not seated or broken. Replace defective part. Engine breather defective. Replace.
Excessive vibration	Bent or damaged blade spindle	Stop engine immediately. Check all pulleys, blade spindles, blade adapters, keys and bolts for tightness and damage. Tighten or replace any damaged parts.
	Bent blade	Stop engine immediately. Replace damaged blade. Only use original equipment blades.
Mower will not discharge grass or leaves uncut strips	Engine speed low Transmission selection Blades short or dull	Throttle must be set between 3/4 and full throttle. Use lower transmission gear. The slower your ground speed, the better the quality of cut. Sharpen or replace blades (uncut strip problem only).

HYDROSTATIC TRANSMISSION TROUBLE SHOOTING

No output torque (power) in either direction, cold start.	<ol style="list-style-type: none"> 1. Recheck relief valve position, control linkage, input drive. 2. Oil level in reservoir low. 3. Broken control shaft dowel pin. Transmission must be repaired or replaced.
Loss of output torque, continuous load.	<ol style="list-style-type: none"> 1. Operating at conditions approaching hydraulic stall. The transmission fluid has exceeded 180°F. 2. Internal leakage due to wear. Transmission should be repaired or replaced. 3. Water in transmission fluid. Purge system of all fluid and replace with new transmission fluid. Replacement of the transmission is generally not necessary.
No output torque in one direction.	<ol style="list-style-type: none"> 1. One of the directional valves is stuck. Transmission should be repaired or replaced. 2. Low oil level.
Tractor cannot be pushed with engine off.	<ol style="list-style-type: none"> 1. Relief valve control not set. 2. Relief valve travel not adjusted. 3. Motor piston or rotor seized. Transmission must be repaired or replaced.
No neutral.	<ol style="list-style-type: none"> 1. Recheck linkage. Loose linkage creates an adjustment problem. Note: The hydraulic neutral band is very narrow. Deflection in the linkage may make it difficult to obtain neutral from both directions. It is recommended that neutral should be positive from forward drive.
Oil leakage at the control shaft seal.	<ol style="list-style-type: none"> 1. Spillage when fluid has been added to the reservoir. 2. Spillage at the vent in the reservoir at operating temperatures due to cold level being too high or water in the fluid. Reduce fluid level or replace fluid in the event there is water in it (milky color). 3. Loose oil reservoir or cover. 4. Loose vent bolt. 5. Damaged control shaft seal. Transmission should be repaired.
Noisy Operation.	<ol style="list-style-type: none"> 1. Operating at part throttle. Hydrostatic transmission is designed to operate with the engine running at full throttle. 2. Water in transmission fluid. Replace transmission fluid. 3. Air in transmission fluid. Bleed air from vent.
Output shaft rotates in the opposite direction.	<ol style="list-style-type: none"> 1. The transmission body is 180° out of position. Transmission has to be removed and reassembled correctly.

PARTS INFORMATION

POWER EQUIPMENT PARTS AND SERVICE

Parts and service are available through the authorized service firms listed below. All orders should specify the model number of your unit, part numbers, description of parts and the quantity of each part required.

BRIGGS AND STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

Briggs & Stratton, Tecumseh and Peerless parts and service should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing **Engines—Gasoline**, Briggs & Stratton or Tecumseh Lauson.

NOTE: If any parts are found to be missing or defective upon assembly of this unit, write to advise the factory so that immediate replacement can be made.

ALABAMA	BIRMINGHAM
Auto Electric & Carburetor Co.	2625 4th Ave. S.35233
ARKANSAS	NORTH LITTLE ROCK
Sutton's Lawn Mower Shop	5301 Roundtop Drive Box 368, Rt. 472117
CALIFORNIA	PORTERVILLE
Billious	75 North D Street93257
COLORADO	DENVER
Spitzer Industrial Products Co.	Box 29114, 6601 N. Washington St.80229
FLORIDA	JACKSONVILLE
Radco Distributors	4909 Victor St. Box 545932207
	OPA LOCKA
Small Eng. Dist.	2351 N.W. 147th St.33054
GEORGIA	EAST POINT
East Point Cycle & Key	2834 Church St.30344
ILLINOIS	LYONS
Keen Edge Co.	8615 Ogden Ave.60534
INDIANA	ELKHART
Parts & Sales Inc.	2101 Industrial Pkwy.46514
IOWA	DUBUQUE
Power Lawn & Garden Equip.	2551 J.F. Kennedy52001
LOUISIANA	MONROE
Mid-South Power	700 Pine St.71201
	NEW ORLEANS
Suhren Engine Co.	8330 Earhart Blvd.70118
MARYLAND	TAKOMA PARK
Center Supply Co.	6867 New Hampshire Ave.20912
MASSACHUSETTS	SPRINGFIELD
Morton B. Collins Co.	300 Birnie Ave.01107
MICHIGAN	LANSING
Lorenz Service Co.	2500 S. Pennsylvania48910
	MOUNT CLEMENS
Power Equipment Dist.	340 Hubbard48043
MINNESOTA	HOPKINS
Hance Distributing Inc.	420 Excelsior Ave. W.55343
MISSISSIPPI	BILOXI
Biloxi Sales & Service, Inc.	506 Caillavet St.39533
MISSOURI	KANSAS CITY
Automotive Equip. Service	3117 Holmes St.64109
	ST. JOSEPH
Ross-Frazier Supply Co.	8th and Monterey64503
	ST. LOUIS
Henzler, Inc.	2015 Lemay Ferry Road63125
NEW JERSEY	BELLMAR
Lawnmower Parts Inc.	717 Creek Rd.08030
NEW MEXICO	ALBUQUERQUE
Spitzer Eng. & Parts	1023 Third Ave. N.W.87103
NEW YORK	CARTHAGE
Gamble Dist., Inc.	West End Ave.13619

NORTH CAROLINA	GOLDSBORO
Smith Hardware Co.	515 N. George St.27530
	GREENSBORO
Dixie Sales Company	335 N. Green27402
OHIO	CARROLL
Stebe's Mid-State Mower Supply	Box 366, 71 High St.43112
	CLEVELAND
Bleckrie, Inc.	7900 Lorain Ave.44102
	WADSWORTH
National Central	687 Seville Rd.44281
	YOUNGSTOWN
Burton Supply Co.	1301 Logan Ave. Box 92944501
OKLAHOMA	MUSKOGEE
Victory Motors, Inc.	605 S. Cherokee74401
OREGON	PORTLAND
Kenton Supply Co.	8216 N. Denver Ave.97217
PENNSYLVANIA	HARRISBURG
EECO Inc.	4021 N. 6th St.17110
	PHILADELPHIA
Thompson Rubber Co.	5222-24 N. Fifth St.19120
	PITTSBURGH
Bluemont Co.	11125 Frankstown Rd.15235
	PUNXSUTAWNEY
Frank Roberts & Sons	R.D. 215767
TENNESSEE	KNOXVILLE
Master Repair Service	2000 Western Ave.37921
	MEMPHIS
American Sales & Service, Inc.	3035-43 Bellbrook38116
TEXAS	DALLAS
Marr Brothers, Inc.	423 E. Jefferson75203
	FORT WORTH
Woodson Sales Corp.	1702 N. Sylvania76111
	HOUSTON
Bullard Supply Co.	2409 Commerce St.77003
	SAN ANTONIO
Engine House Inc.	8610 Botts Lane P.O. Box 1786778217
UTAH	SALT LAKE CITY
A-1 Engine & Mower Co.	439 E. 900 So.84111
VIRGINIA	ASHLAND
RBI Corp.	Lake Ridge Rd. 101 Cedar Run Dr.23005
WASHINGTON	SEATTLE
Bailey's Inc.	1414 14th Ave.98122
WISCONSIN	MARSHFIELD
Power Pac	301 E. 29th St.54449
	APPLETON
Appleton Automotive Supply Co.	123 S. Linwood Ave. P.O. Box 79854911
	TWIN LAKES
E-Kon Small Engine Spec.	122 Lance Dr.53181

WARRANTY PARTS AND SERVICE POLICY

(0782)

The purpose of warranty is to protect the customer from defects in workmanship and materials, defects which are NOT detected at the time of manufacture. It does not provide for the unlimited and unrestricted replacement of parts. Use and maintenance are the responsibility of the customer. The manufacturer cannot assume responsibility for conditions over which it has no control. Simply put, if it's the manufacturer's fault, it's the manufacturer's responsibility; if it's the customer's fault, it's the customer's responsibility.

CLAIMS AGAINST THE MANUFACTURER'S WARRANTY INCLUDES:

1. Replacement of Missing Parts on new equipment.
2. Replacement of Defective Parts within the warranty period.
3. Repair of Defects within the warranty period.

All claims MUST be substantiated with the following information:

1. Model Number of unit involved.
2. Date unit was purchased or first put into service.
3. Date of failure.
4. Nature of failure.